Ontario

FINAL REPORT
and
RECOMMENDATIONS
of the
ADVISORY COMMITTEE
on
JUNIOR RESOURCE FINANCING
and the
COMPETITIVE POSITION OF ONTARIO

VOLUME TWO

TAXATION,

INCENTIVES,

and GOVERNMENT SERVICES

July 1986

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SECTION I

INTRODUCTION

Introductory Remarks

The Committee was initiated by the Ministry of Northern Development and Mines to review and make recommendations on:

(1) the effectiveness and efficiency of the Ontario capital market in providing funds for the junior resource industry and to propose changes to make Ontario competitive with other jurisdictions, and

(2) the investment climate for the junior resource industry, in terms of the cost of capital and return on investment in Ontario, reviewing (to the extent that time allows) tax and other incentives available elsewhere.

E.G. Thompson, a past president of the Prospectors and Developers Association of Canada (PDA), and a long-time active participant in the mining and junior resource scene in Canada, was asked in mid-January to be chairman of the Committee and to select a number of knowledgeable and interested individuals from the legal, brokerage, junior mining, regulatory and taxation communities to assist in the study. The Committee members are listed at the end of the introduction. They all donated their time and experience and provided invaluable assistance in the preparation of this report. Since all the members are involved in the day-to-day operations of their particular lines of business, the Committee was able to tap an enormous amount of practical experience.

The Committee met weekly and various sub-Committees met more frequently. The most active sub-Committee was the Securities Committee under the direction of R.A. Schiralli, Q.C. Early in the study, the

Committee decided to prepare a draft of the proposed new securities policy rather than just make a set of recommendations. This decision was based on the following factors:

(a) The request by the Ministry was to make practical recommendations that could be implemented as soon as possible. From previous experience, the Committee believed that because of their busy schedule, the Ontario Securities Commission (the Commission) staff would be greatly assisted in their review of our recommendations if they were set out in policy form;

(b) The Committee had an ideal cross-section of people, knowledgeable in all aspects of the business who we believe were ideally suited to propose workable policies;

(c) The Committee was also knowledgeable in the competitive position of other jurisdictions;

(d) The Committee was also concerned about the common problem of taking the recommendations of one group and having a different group translate their recommendations into policy.

While the decision to prepare a draft policy necessitated substantial additional work and delayed the report by two months, the Committee believes that by drafting the policy, the time frame for consideration by the Commission would be very substantially reduced. In our opinion, the proposed policy is fair to all sectors involved, competitive with other jurisdictions, efficient and workable. In addition it now sets in writing a number of formerly unwritten guidelines used by the Commission staff.

In addition to the junior mine financing policy, the chairman met from mid-January to mid-April with a broad spectrum of junior mining

people, brokers, government officials, major company representatives and other interested parties to discuss and to solicit their advice on other issues that affect Ontario's competitive position. As reviewed in this report the principal items were (a) flow-through shares, (b) Ontario Mineral Exploration Program, (c) data base and mining regulations, (d) taxation levels, (e) an Ontario Share Ownership Plan, (f) small grants to help finance new company formations and (g) development grants.

As expected, a wide range of opinions were received on the various issues. The problems of junior companies are different than those of major companies just as regulators, promoters, securities-dealers and Exchange member firms have different concerns. While the mandate of our Committee was to look at methods of improving the competitive position of the junior resource industry, the Committee was cognizant of the problems in the senior mining industry and also recognized the mandate of the Commission to protect the public in security matters. In general, because of the inter-related nature of our business, the policies that are favourable for the junior companies are just as favourable or better for the mining companies (e.g. flow-through shares that were originally instituted for the junior companies). Major mining companies like Noranda, Falconbridge, Placer and Teck all strongly support the idea of a strong junior sector of the mineral exploration and mining business.

In addition to the personal meetings, a two stage questionnaire was sent out to 274 recent (1985) users of the Ontario Mineral Exploration Program (OMEP) and to 30 other companies (mainly majors) and individuals. The questionnaire sought comments on the usefulness of OMEP and how it might be improved, and on the possible action that the provincial government might take to improve conditions for junior mining and mining in general. In addition personal requests were made for input from numerous companies.

The Committee wishes to acknowledge and thank all sectors of the mining industry, financing houses, stock exchanges, government agencies and regulatory bodies for the tremendous support and cooperation received. Their positive attitudes indicate that we have a reasonable opportunity in Ontario to re-establish a risk capital market for junior mining companies and to implement policies so as to remain competitive in the world mining industry.

Acknowledgements

A study of this size and scope required the effort of many people in the mining industry and related industries. The Committee would like to acknowledge this general support and specifically the companies and individuals listed below.

In 1985, the Centre for Resource Studies prepared an excellent study entitled "Effects of Location on Mine Development Potential, Nova Scotia's Competitive Position in Canada." The information is current and many of the conclusions are applicable to Ontario and with their permission, a precis is included in Appendix I.

Tax studies done by the Mineral Policy Section of Energy, Mines and Resources in Ottawa under the direction of Keith Brewer and by Bob Parsons of Price Waterhouse in Toronto were utilized in the section on competitive taxation.

Dr. Vic Milne, Director of the Ontario Geological Survey, was helpful in discussion and drafted a section on the geoscience data base. Various directors of the Prospectors and Developers Association of Canada reviewed sections of the report and provided input.

Data for the mining incentives study and the OMEP study was received from over 100 companies. Many people contributed ideas and/or

6comments on drafts of various sections including Dr. Lionel Kilborn, Alan Coope, Dr. Terry Podolosky, Michael Gray, Don Ross, Dave Rogers, John McAdam, Fenton Scott, Dutch Van Tassell, Henrik Thalenhorst, Dave Hutton, Hugh Cleland, Ron Campbell, Jack Patterson, Peter McCarter, Marvin Singer, John Morganti and Bruce McDonald. The staff at William Hill Mining Consultants Limited provided secretarial and other services.

The Chairman travelled to Vancouver and met for three days with representatives of the Vancouver Stock Exchange, the Superintendent of Brokers, the B.C. and Yukon Chamber of Mines, and the brokerage, mining and legal fraternities in order to learn the current status of mining financing in Vancouver and the reason for their success. He was cordially received and information was made readily available.

The Chairman also met with representatives of the Government of Quebec to review and discuss their incentives. Again the cooperation was complete.

The Securities Sub-Committee under the chairmanship of R.A. Schiralli, Q.C. and composed of Messrs. R. Hogarth, E. Thompson, W.S. Vaughan, K. Wiener and B. Young met several evenings per week over 3 months to draft a new policy. R.A. Schiralli, Q.C. of the firm Armstrong, Schiralli and Dunne, did most of the drafting with able legal assistance from W.S. Vaughan and K. Wiener. In addition the legal firms of Aird & Berlis and Smith, Lyons, Torrance Stevenson & Mayer reviewed the document and prepared comments which were most appreciated.

Committee member Charles Salter, Vice-Chairman of Ontario Securities Commission, advises that while he supports many of our junior mining policy recommendations, decisions on a new policy will be made by the full Commission following public meetings to review the Committee's recommendations. Further, Mr. Salter notes that some of our recommendations in Section II comment on certain social and other policies, noting

that they contribute to the mining industry's cost burdens. Mr. Salter disassociates himself from these questions so far as they relate to policies of the Ontario government.

Mr. Wiener participated as a member of the Committee in his personal capacity. The Board of Governors of The Toronto Stock Exchange has not considered the Report of the Committee.

Committee member Barry Dent of Clarkson Gordon prepared the information on flow-through shares and the summary of mining income in Canada and the section on Ontario Taxes. Steve Vaughan prepared the 20 year review of Ontario Policies affecting junior resource companies.

The Committee wishes to thank the Minister for his interest and support. The Chairman met on numerous occasions with the Deputy Minister George Tough and Assistant Deputy Minister Dennis Tieman and he would like to also acknowledge their assistance and keen support. We believe that by working together a stronger and more competitive mining industry can be achieved in Ontario which will benefit all Canadians.

Part of the Chairman's time and expenses were funded by the Ministry of Northern Development and Mines. Israel Lyon, Senior Policy Advisor from the Ministry of Northern Development and Mines, ably acted as Secretary of the Committee.

Terms of Reference

The terms of reference as outlined to the Committee on January 23, 1986 are given below.

"The Junior Mining Industry has been a major factor in the development of Ontario's mineral wealth. The Government of Ontario believes that junior mining should play an even greater role than in the past, and

that it will do so if provided with the necessary support and appropriate institutional framework. The Government of Ontario also recognizes, that the competition for mineral sector investment is intense. It is determined that the environment for junior mining companies involved in exploration and development in Ontario will be competitive with other jurisdictions.

"The Study Group under the chairmanship of Ed Thompson will look at two aspects of the investment environment for junior mining.

"First, it will examine the effectiveness and efficiency of the Ontario capital market in providing funds to junior mining. It will review trends in financing arranged in Ontario for Ontario Junior Mining activities, and the extent to which markets in other jurisdictions are providing capital to Ontario's junior miners, and consider the reasons for these trends and their implications. It will also consider new initiatives within The Toronto Stock Exchange and the Ontario Securities Commission including the recently announced COATS system.

"The Study Group will propose changes in the Ontario system, as they are indicated by the review of the past and current situation. In so doing, it will draw upon earlier studies of the issue and consult intensively with the spectrum of companies and individuals involved - as seekers of capital, as members of the trading institutions, as legal and financial professionals, and as regulators in the capital - raising process.

"In its investigations, the study group will give careful consideration to the question of balance between the need for easy access to capital on the part of the industry and the need for a prudent degree of investor protection.

"The second issue to which the Study Group will give attention is the investment climate for junior mining, in terms of the cost of capital and return on investment in Ontario. The Group will review tax and other incentive frameworks elsewhere in Canada (and elsewhere in North America, to the extent possible in a 3 month time-frame), and compare these to the situation in Ontario. To the extent that Ontario appears to be less than competitive, the Group will recommend specific changes to the Ontario system."

In later discussions with the Ministry, the Committee was asked to also consider and make recommendations on several other areas that affect Ontario's competitive position. Specifically, these subjects included:

(a) the role of the Ontario Geological Survey and the provinces geoscience data base;

(b) the Ontario Mineral Exploration Program (OMEP);

(c) the proposed Ontario Share Ownership Plan (OSOP);

(d) the tax environment on the mining industry in Ontario; and

(e) the overall cost structure affecting mining.

Report Structure

This report is divided into two volumes. Volume One addresses the Ontario capital market for junior mining. Volume Two addresses the investment climate, cost structure and geoscience data base for junior mining in Ontario. Each volume has a common introductory section, a summary of its own recommendations, and an appendix summarizing the other volume.

Committee Members

E.G. Thompson	-	Committee Chairman, E.G. Thompson Mining Consultants Inc.
I.E. Lyon	-	Secretary, Ministry of Northern Development and Mines
M.B. Dent	-	Clarkson Gordon
J.T. Flanagan	-	Muscocho Explorations Limited
M.B.C. Gundy	-	Caldwell Securities Ltd.
R.M. Hogarth	-	Cassels Blaikie & Co. Ltd.
H.D. Hume	-	Nuinsco Resources Limited
Charles Salter	-	Ontario Securities Commission
R.A. Schiralli	-	Armstrong, Schiralli & Dunne
W.S. Vaughan	-	Aird & Berlis
K.R. Wiener	-	The Toronto Stock Exchange
B.M. Young	-	B.M. Young & Partners Securities Inc.

SECTION II

THE SUMMARY AND RECOMMENDATIONS OF VOLUME TWO

The Factors Affecting Ontario's Competitive Position

Ontario's mining industry competes on a worldwide basis; therefore, an examination of Ontario's competitive position becomes a large and complex undertaking. Many factors must be considered, including the following:

(i) The geological environment which dictates the type of deposits;

(ii) The data base which provides basic technical information;

(iii) The income tax structure which can encourage, discourage or be neutral;

(iv) Non-profit taxes;

(v) Availability of risk capital and markets to mobilize funds;

(vi) Availability of technical staff, labour and related incentives or disincentives for staff and labour to be productive;

(vii) The cost structure of labour. Canadian labour costs are usually 10-20 times labour costs of Third World countries;

(viii) Availability of infrastructure and assistance to put a mine in place. This factor is important in Canada with large distances to cover and remote areas;

(ix) Environmental regulations and the cost of their implementation;

(x) Social costs such as Unemployment Insurance, Workers' Compensation, Medical and other non-profit costs;

(xi) Wage levels of government and quasi-government agencies such as Hydro, Bell, CN, etc. which in recent years have put upward pressure on industry wage rates; and

(xii) The relationship of the Canadian dollar to the U.S. dollar (in which most commodities are priced). Third World and Communist countries devalue their currencies to maintain a competitive position.

Many conflicts develop. For example, a weak currency helps exporting industries but makes the costs of imported items more expensive. Construction industries and government agencies such as Hydro which do not compete on a world scale, often lead wage increases. This adds to the cost base of companies and often makes them uncompetitive.

The Committee has made a number of broad recommendations on the economic position as well as numerous specific technical recommendations. Some of these are beyond the Ontario Government's scope and require Federal approval. Some will conflict to some extent with other areas such as social plans, environmental rules and regulations, security and other regulatory requirements and available funding. As stated earlier, the competitive position is determined by dozens of different factors and the more items improved, the stronger the industry will be. All sectors (business, government and labour) must work together if we want to maintain our position in this worldwide important industry.

General Recommendations

These recommendations include a broad spectrum of items which affect the overall competitive position of the mining industry. Any and all factors which will keep costs competitive with other mining jurisdictions will help all Canadian exporting industries.

(i) Wage costs are the largest single item for most mining operations and will range from 30% to 70% of total operating costs. Canadian wage rates are generally higher by a factor of 10 to 20 times above most of our mining competitors in Third World countries. If Canada is to maintain a viable mining industry, labour, industry and government must work together to keep our costs to a minimum. Inevitable economic forces, as are taking place in the U.S., may require innovative compensation packages to fully employ our labour force.

(ii) Some social legislation adds to industry costs. Every time a well meaning piece of legislation adds regulations and costs, the industry becomes less competitive.

(iii) Environmental regulations may cause uncertainty, delays and extra costs for industry. The people in the industry live in the areas affected and both appreciate and support the need for sensible regulations to protect Ontario's environment. The regulators need to live in northern mining regions as well and have the knowledge and the authority to quickly suggest alternate approaches when environmental problems arise so that costly delays can be avoided.

(iv) The high costs associated with living in remote communities would be lowered by implementing a number of the recommendations of the Rosehart Report on Resource Dependent Communities in Northern

Ontario, May 1986. This would undoubtedly help to make our northern industries more competitive.

(v) With regard to the proposed Ontario Mining Act that has been under review for the last 17 years, we recommend that it be implemented as soon as possible.

(vi) The Ministry should set up a small development project group to expedite new mining projects through the regulatory maze.

(vii) The Committee is in general agreement with the mining industry's recommendations for the multiple use of park lands (e.g. the Temagami Copper Mines on Lake Temagami) and the industry's concern over land withdrawals and uncertainty caused by Indian land cautions. However these two areas were not reviewed by the Committee.

Ontario Geological Survey and Geoscience Data Base

The Committee would like to emphasize the importance of a good geoscience data base to assist in resource exploration and development. A large number of specific recommendations covering this very important section of the mining industry are listed in the appropriate sections and are summarized below.

(i) The Ontario Geological Survey operating budget at least needs to keep pace with inflation. In recent years, very important field mapping operations have been curtailed.

(ii) In consultation with industry, a priority list of areas to be geologically mapped at 1:20,000 and 1:100,000 should be prepared. More staff and funding are required so that the program can be completed within ten years.

(iii) For Resident Geologists' offices, a priority list of areas requiring data compilation should also be drawn up and budgeted for completion in three years.

(iv) The roles of the Ontario Geological Survey and the Resident Geologists should be defined to eliminate duplication.

(v) The existing Technical Liaison Committee should be given a more active role in advising the Ontario Geological Survey and the Ministry on government programs, exploration incentives and technical matters.

(vi) Research programs on geophysical and geochemical methods should be re-oriented because they essentially are duplicating industry's efforts. Emphasis should be directed to carrying out regional programs to provide a geoscience data base.

Taxation

(i) Capital Gains Taxes: The Committee believes that an Ontario capital gains tax would discourage the raising of risk capital and diminish flow-through share financings. Without appropriate financing, the junior mining sector will not produce taxable profits, thereby reducing the province's income through taxation. The spectre of such a tax also discourages promoters from returning to Ontario.

(ii) Ontario Mining Taxes: In order for the operator to recover his capital investment before cash flow is used to pay taxes, the Committee recommends that processing assets for new mines be eligible for accelerated depreciation as a tax deduction.

(iii) Ontario Corporate Income Taxes: The Committee recommends that Ontario consider changing its corporate income tax rules for mining to the resource allowance/earned depletion system that is in place in all other Canadian jurisdictions.

(iv) Increased Flow-Through Depletion for Exploration Costs: Despite the strong first place showing in the survey on incentives and the assessment by the Committee that this approach is technically the most efficient, the Committee has decided that sufficient funding is presently available and that an increase in the depletion credit is not necessary at this time.

(v) Flow-Through Depletion for Development Costs: The Committee recommends that Ontario and Quebec jointly request the federal tax authorities to permit a flow-through depletion allowance for development costs against non-resource income, similar to that which is allowed for exploration costs.

(vi) Income Debentures: While this item is also a federal responsibility, the Committee recommends that the province make representation to Ottawa for an after-tax type of financing vehicle for new investments in projects, plant and equipment. (Class 28)

(vii) Non-Profit Taxes: Governments are advised to carefully monitor and limit all types of non-profit taxes because collectively they impose a major burden on all industries.

<u>Ontario Mineral Exploration Program (OMEP)</u>

A number of recommendations are made for OMEP. These include:

(i) Make OMEP grants available only to companies with gross income of under $10 million;

(ii) Increase the number of permitted programs per company from one to two and permit amendments to programs as they evolve;

(iii) Recommendations for speeding up the processing and the pay-out processes;

(iv) Recommendations for improved working relationships with industry;

(v) Increase the size of the budget by 100%;

(vi) Amend the program so that the grants can either go to the company or the investors; and

(vii) Request the federal government to amend the rules that reduce the federal exploration write-off by the amount of the grant.

Ontario Share Ownership Plan (OSOP)

Several recommendations have been made for OSOP if and when the government institutes such a plan. They are:

(i) Include junior companies in OSOP and provide the highest incentives for the smaller companies because they have the most difficulty in raising risk capital.

(ii) Make the incentive available only to companies with Ontario projects and to non flow-through shares.

(iii) Provide a grant of one-third of the start-up cost for new companies, up to a total grant of $50,000.

Ontario Mine Development Fund

Over the past few years Quebec has successfully used development grants to push marginal projects into production. Their approach has been to provide up to 18% of the cost of a major item (shaft or mill) as a grant. They claim that because 80% of the funds are spent locally, that they make a profit on their investment within the first year and have the added benefit of long term jobs and taxes from the project.

Recently Quebec has been considering moving away from grants to a flow-through share system for development expenditures. Ontario should consider both possibilities but because of the absence of a separate tax collection system, the grant process would be the easiest to implement.

An option the Ministry has, is to set up a special fund (possibly $25 million) for new mine development and use it to move along new projects by paying up to 18% of certain development and/or capital costs.

SECTION III
THE COMPETITIVE POSITION OF ONTARIO

General Overview

A complete study of the competitive position of Ontario in the mining business would be a very large and complex report. The minerals business is truly a world-wide market in which prices are relatively uniform. However, production costs differ from country to country due to many factors such as labour costs, accessibility to market, availability of technology, and so on.

In our review, we concentrated our comparisons among the various jurisdictions across Canada with the main emphasis on Quebec who has been the leader in providing assistance to the minerals industry. A few comparisons with other countries have been included. The Energy and Mines Resources Branch in Ottawa is preparing a detailed report on International Taxation levels so this area was not reviewed. Previous studies have shown that Canada is generally in the middle group of countries with an effective tax rate in the low 50% range. We do not compare well with such states as Nevada with a 27% level or with Australia with no taxes on gold production, but generally, taxation in most Canadian jurisdictions is not too unfavourable.

However, on wage costs, no detailed studies or computer modelling is required to show the tremendous competitive advantage held by all Third World countries. Their wage rates are usually lower by a factor of 10 to 20 times (i.e. \$6 - \$10 per day in Third World countries vs. \$130 - \$160 per day in Canada). Wage rates generally comprise approximately 65% of the total underground costs and 50% of the open pit operating costs - putting Canada at a competitive disadvantage. In addition, our environmental and social legislation add to this burden.

It has been obvious to anyone who has recently studied the international mining environment over the past decade that if Canada were to continue to maintain a viable mining industry we would require all levels of government, labour and industry to work together and keep costs at a minimum.

We must move away from the confrontation approach. Corporations need to take a more open attitude with employees and they need to educate them on economic matters. The days of posting a notice that 500 or 1000 people will be laid off work at a certain date are no longer acceptable. There needs to be discussions between labour, business and government to determine possible courses of action.

Employee understanding of mining economics also requires changing. Employees need to become more aware that we are all living in a competitive market place and that labour costs are often the largest component of the total costs. The position of some union groups that their members would rather be unemployed than accept a "low" wage increase, around 5% for example, should surely be questioned. Certain sectors of the economy such as mining which must compete worldwide, will have to develop innovative labour compensation packages in order to survive. In the U.S. many of the copper operations are in the process of rolling back wages by up to 40% because the strong U.S. dollar has made most U.S. mines uneconomical. Although the Canadian dollar is approximately 40% lower than the U.S. dollar, our industry is having trouble competing with Third World countries who keep devaluing their currencies and have labour costs 10 to 20 times lower than Canadian rates.

An example of the competitive problems facing mining in Canada becomes evident by looking at the production statistics for several metals. We selected copper, gold and silver, but other metals would illustrate similar distributions. Not only are many of the mines in the Third World of a better grade then Canadian mines, they also have the

double advantage of depreciating currencies, and low labour rates. Also, they often have the questionable advantage of being government-owned and remain operating regardless of profit or loss.

Looking at copper, of the Free World's top eleven copper producers, only the U.S. and Australia have firm currencies and high wage rates. In addition, many communist countries sell copper onto world markets.

For gold, Canadian production at 6.1%, is small compared to South Africa with 45.8% and the U.S.S.R. with 18.6%. Only the U.S. with 5.0% have the same problems as Canada and most of their operations are low cost open pit mining in Nevada with a maximum tax rate of 27%.

The same picture is seen for silver, with Mexico and Peru being the two largest producers.

Free World Copper Mine Production (000 st.) 1985

Chile	1,425	20.0%
U.S.	1,225	17.1
Canada	775	10.8
Zambia	580	8.1
Zaire	535	7.5
Peru	420	5.9
Philippines	250	3.5
Australia	300	4.2
South Africa	225	3.1
Mexico	200	2.8
Papua New Guinea	180	2.5
Total Free World	7,165	100.0

World Gold Production in 1985 (in thousands of troy ounces)

South Africa	21,669	45.8%
U.S.S.R.	8,830	18.6
Canada	2,884	6.1
U.S.	2,370	5.0
China	2,170	4.6
Brazil	1,465	3.1
Total	47,356	100.0

Free World Silver Production (in millions of troy ounces)

Mexico	70
Peru	58
Canada	43
U.S.	40
Australia	34
Others	87
Total	332

It should be stressed that it is not only high wage rates in the mining industry that can make our products uncompetitive. These rates are pushed up by the relatively high salaries of government and quasi government agencies such as Hydro, CN, and Bell. High social costs (Unemployment Insurance, Workers' Compensation, Medical, etc.) add another 40% to the high wage costs.

Various levels of regulatory agencies add to the time and costs of industry. If a permit is held up for some reason or other, or if an operation is forced to hire a certain number of minority groups, or if

unrealistic environmental regulations are imposed, our industry becomes less competitive, less likely to make a profit, and less likely to survive.

No one is advocating the rape, ruin and run approach. However we desperately need a practical and cooperative approach by all the regulatory authorities. These people need the experience and the authority to make quick decisions and to be able to say, you can't do it that way but you can do it this way; and they must be able to work along with industry to make it happen.

Positive items for the Canadian mining industry include (a) favourable geology, (b) a good data base (c) good technical staff (d) a reliable transportation system (e) usually good government support (f) proximity to the U.S. markets, (g) excellent risk capital markets in Vancouver and (h) presently a favourable tax system for exploration and a reasonable tax level for mining.

Provincial Comparisons

The three tax studies show the different tax levels between the various provinces and the Nova Scotia study also compares wage rates, power costs, workman compensation and infrastructure. In this section, we will briefly review other factors such as provincial exploration incentives, the quality of the data base, ease and risk of borrowing etc.

Time did not permit, nor was it considered pertinent to do a detailed comparison of all of the following items. In most cases, the amount of incentives varies little from province to province except in the case of Quebec. As shown in the comparative summary sheet between Ontario and Quebec, in all areas, Quebec provides better incentives, both directly and indirectly to the mineral industry.

1. <u>Mining Acts</u>:

All of the mining provinces have a satisfactory Mining Act. The Ontario Act has been under review for the last 17 years and is in the final stages. We urge the government to implement the new Act as soon as possible.

2. <u>Data Base</u>:

Ontario has slipped from its leading role in recent years in the quality of its geoscience data base. As observed in a separate section, a number of recommendations have been made to improve this area which still is one of the best in the world.

3. <u>Information Services</u>:

With the exception of Quebec, the current set-up of recording offices, assessment files etc. are competitive with the other provinces. A number of recommendations are made in the Ontario Geological Survey section for improvements.

4. <u>Exploration Incentives</u>:

Again, with the exception of Quebec, the financial incentive for exploration within the provinces is competitive. In general, exploration expenditures cost an investor 26¢ on the dollar and for programs that receive full OMEP funding, as low as 20¢ on the dollar. In Quebec with the double depletion credit, the cost is approximately 12¢ per dollar spent. As discussed in more detail under the flow-through shares section, the committees believe that sufficient exploration funds are available for Ontario in 1986 without increasing the depletion credits.

B.C. has recently introduced a one year program costing $5 million to promote private sector mineral exploration. The program has three components. Grants of up to $5,000 will be provided to eligible prospectors for grass roots exploration. Grants of up to

$150,000 will be available to eligible companies to carry out exploration on existing properties with identified mineral potential. Grants of up to $300,000 per project will be available to mining companies to cover one-third of eligible exploration expenses of developed mines.

5. <u>Financing Incentives</u>:

(a) <u>Securities Regulations and Facilities for Risk Financing of Junior Resources Companies</u>:
The major source of junior company financing has been the Vancouver Stock Exchange for the last decade with the Montreal Stock Exchange achieving some improvements in recent years due to Quebec government incentives. The main purpose of this study is to improve conditions in Ontario. See the section on junior resource financing and proposed new securities policy.

(b) <u>Assistance in New Company Start-up Costs</u>:
Again Quebec is the only province to provide substantial assistance with a grant of $10,000 towards the original report etc. and up to $400,000 for financing costs. The last Quebec budget has withdrawn this generous provision. Our Committee has made some recommendations in this area (see OSOP section).

(c) <u>Stock Savings Plan</u>:
Quebec has the most complete program to aid provincial companies at a cost of $179.7 million in 1985. Both Alberta and B.C. have implemented less comprehensive programs and we have made recommendations for an Ontario Plan (see chapter on OSOP).

6. <u>Tax Levels</u>:
Quebec generally provides the best incentives while Ontario is usually close to the highest tax level. The tax level is discussed in more detail elsewhere in the report.

Comparison of Incentives to the Mining Sector Between Quebec and Ontario

Area	Quebec Programs	Ontario Programs	Winner
Mining Act	A good Act. Assessment credits on a dollar basis.	The new Mining Act has been under review for 17 years.	Quebec
Data Base	Good, a leader in airborne coverage.	Good, needs more geophysical and geochemical work.	Quebec
Information Services (assessment records, recording off.)	Excellent recording offices, computerized data etc.	Reasonable. Needs modern inf. storage, retrieval and transmission system.	Quebec
Exploration Incentives	Excellent, costs an investor 12¢ per $1 spent.	Good. Currently costs on investor 26¢ and on small OMEP project, 20¢.	Quebec
Financing Incentives:			
Regulations & Facilities	Good.	Poor for juniors, under review	Quebec
Assist. in start-up costs	$400,000 max. assist.	Nil	Quebec
Stock Savings Plan	$179.7 million govt. incentives in 1985.	Nil	Quebec
Infrastructure Assistance	Historically excellent Builds roads to Resources.	Will provide some help on new production facilities. Few access roads.	Quebec
Tax Levels	Generally provides the best incentives.	Usually the highest tax level.	Quebec

SECTION IV

COMPARATIVE TAXATION

Summary of a Report by the Centre of Resource Studies on the Competitive Position of Nova Scotia in Canada

Introduction

One of the source documents we have drawn heavily on to compare the competitive position of Ontario in the Canadian mining community is an excellent study completed last year for the Government of Nova Scotia by the Centre for Resource Studies.* The report compares the competitive position of Nova Scotia for the development of a typical small underground gold property and a large open pit tungsten deposit. Most of the comparisons and conclusions of the report are still valid and can be used to show Ontario's competitive position as well. We have reviewed the report and summarized the findings from an Ontario position. The material is embodied on the next few pages.

This study is deficient in several areas for the purpose of junior mining as it does not address (1) access to financing (2) various government incentives such as flow-through shares, grants, OMEP etc. (3) data base and indirect government help such as Quebec provides and (4) the attitude (help and hindrance) of the various levels of bureaucracy in the provinces. The latter point is important but difficult to quantify. However it is generally agreed that Quebec has been the most helpful to the mining industry of any province for the last two decades and is still leading the way.

*Davis, Dallas W., Brian W. MacKenzie, Michel L. Bilodeau, "Effects of Location on Mine Development Potential: Nova Scotia's Competitive Position in Canada." Prepared for the Department of Mines and Energy, Government of Nova Scotia, at the Centre For Resource Studies, Open File Report 621, May 1985.

General Approach

The Nova Scotia study considered five main variables, three of which were dependent on location and two that were independent:

Location dependent:

- regional economic conditions, wage rates etc.
- location with regard to infrastructure
- taxes

Nonlocational factors:

- world-wide economic conditions
- deposit specific characteristics

The general methodology was to show the effects of the deposit location by holding the non-locational factors constant. Second, in order to see the locational differences, they were examined one at a time before being combined. Then the study looks at three stages of evaluation:

(i) Before-tax economic effects. Initially, the influence of differences in regional economic conditions is assessed. Then, consideration is given to the influence of the deposit site within a region.

(ii) Effects of taxation. To isolate the consequence of taxation, all other evaluation components are assumed to remain constant.

(iii) Having developed an understanding of before-tax and taxation effects separately, the combined impact of all locational components is assessed.

This general procedure is applied to analyze the effects of location utilizing the representative tungsten and gold deposit case studies.

Basic Evaluation Components

Study estimates are based on 1985 conditions and all money values expressed in 1985 constant dollars.

Current technology.

Tax allowances corrected 5% to reflect inflation.

Weighted average cost-of-capital and discount rates of 10%.

Summary and Conclusions

Under the proposed set of economic and technical conditions, with respect to the before-tax effects of location, the tungsten and gold projects are economically viable throughout Canada. As expected, the project economics are highly sensitive to metal prices and the cost of capital.

The study shows that the projects in Nova Scotia generally provide more favourable economic results than the same mine development opportunities in central Canada and particularly Western Canada. For example, the before-tax net present value of the tungsten deposit varies from $75.9 million in Nova Scotia to $35.6 million at the less-accessible site set in B.C. The gold project numbers range from $8.5 million for Nova Scotia to $5.4 million for B.C.

The main advantages for Nova Scotia are lower labour rates and a high density of infrastructure. For Ontario, electrical rates are better than eastern Canada, wage rates are lower than western Canada but

workers' compensation is 40% higher for gold mines and property taxes are substantial (as in B.C.).

Existing taxation systems impose a heavy cost burden on the tungsten and gold projects throughout Canada. As shown in Figure 3 for the tungsten deposit (Appended--with the other tables listed below--at the end of this subsection), B.C. has the worst non-profit taxes, which total around $80 million on an undiscounted basis, with Newfoundland and Ontario (more accessible site) the next worst at $42.8 million. Ontario (less accessible site) has the lowest non-profit taxes at $13 million, followed by both the Quebec cases at approximately $16 million. For the gold project, B.C. is still the highest, followed by Newfoundland and Ontario.

Using a base case and applying the different taxation regimes the effect of taxation on the two projects is shown on Table 27. For the tungsten deposit the worst case is B.C. where the Net Present Value (N.P.V.) at 10% is reduced to 0. Newfoundland is the next worst case at $12 million. The most favourable tax regime is Nova Scotia at $25 million N.P.V. followed by Saskatchewan at $23.6 million and Ontario (less accessible) at $23.1 million.

For the gold project, B.C. is again the worst area, followed by Newfoundland with Quebec, Saskatchewan and Nova Scotia being the most favourable. The total project tax payments and their components are shown on Table 30, 31 and 32.

The total tax take (i.e. profit and non-profit type taxes) as shown on Figures 12 and 13 and Table 34 show that on average, the companies' profit share represents only 24 percent of the before-tax value at the medium size open pit tungsten mine and 30 percent of the value of the small underground gold mine. The complementary average government tax shares are 76% and 70 percent respectively.

For the tungsten project, the profit-taxation shares vary from 33-67 percent in Nova Scotia to 0-100 percent in B.C. with Ontario being 30-70 and 22-78 percent respectively for the less-accessible and more accessible site. The poorer results for the more accessible site results from higher non-profit municipal taxes.

A comparison of results on an integrated company basis as shown on Tables 31 and 37 illustrates the important tax advantage realized by the integrated companies. The after-tax investment incentives are substantially higher than for the individual project basis of taxation. Consequently the average company profit share increases to about 43 percent as compared to only 27 percent for the individual project basis of taxation. The competitive rankings among the provinces remain essentially unchanged.

The combined impact of before-tax and taxation locational conditions in the tungsten projects are shown in Tables 39 and 40. In the case of the tungsten project, the Nova Scotia, Saskatchewan (more accessible) and Quebec (more accessible) locations provide the most investment incentive with B.C. being the worst case and the project being uneconomic. The two Ontario locations came out about average.

For the gold project, the Nova Scotia, New Brunswick and Quebec (more accessible) locations showed the best returns and again the B.C. based project is not economic. The Ontario more accessible site is about average while the less accessible site is uneconomic.

From Ontario's viewpoint, the study indicates that the combination of higher municipal taxes in accessible areas and the somewhat higher than average taxes on profits and mining taxes, tend to make the tungsten project less attractive then in many of the other provincial jurisdictions. If other incentives such as the higher depletion credit on flow-through shares, assistance for roads and power, and other grants as

are commonly offered by Quebec were included, the comparison in favour of Quebec would be even more substantial. We realize that Ontario has on occasion provided assistance for road building and in the case of the Detour Lake project made a very substantial investment. However on average, over the past two decades the province has generally taken a neutral attitude on resource development, i.e. regulatory rather than a development approach. As illustrated elsewhere in the report, if we wish to stay competitive in Ontario and elsewhere in Canada, all sectors of business, government, and labour will have to work to keep capital and operating costs to a minimum. Competitive world-wide market conditions permit no margin for unrealistic tax, environmental, regulatory, social or inefficiency cost factors to enter into the cost base for the development and operation of new mineral deposits.

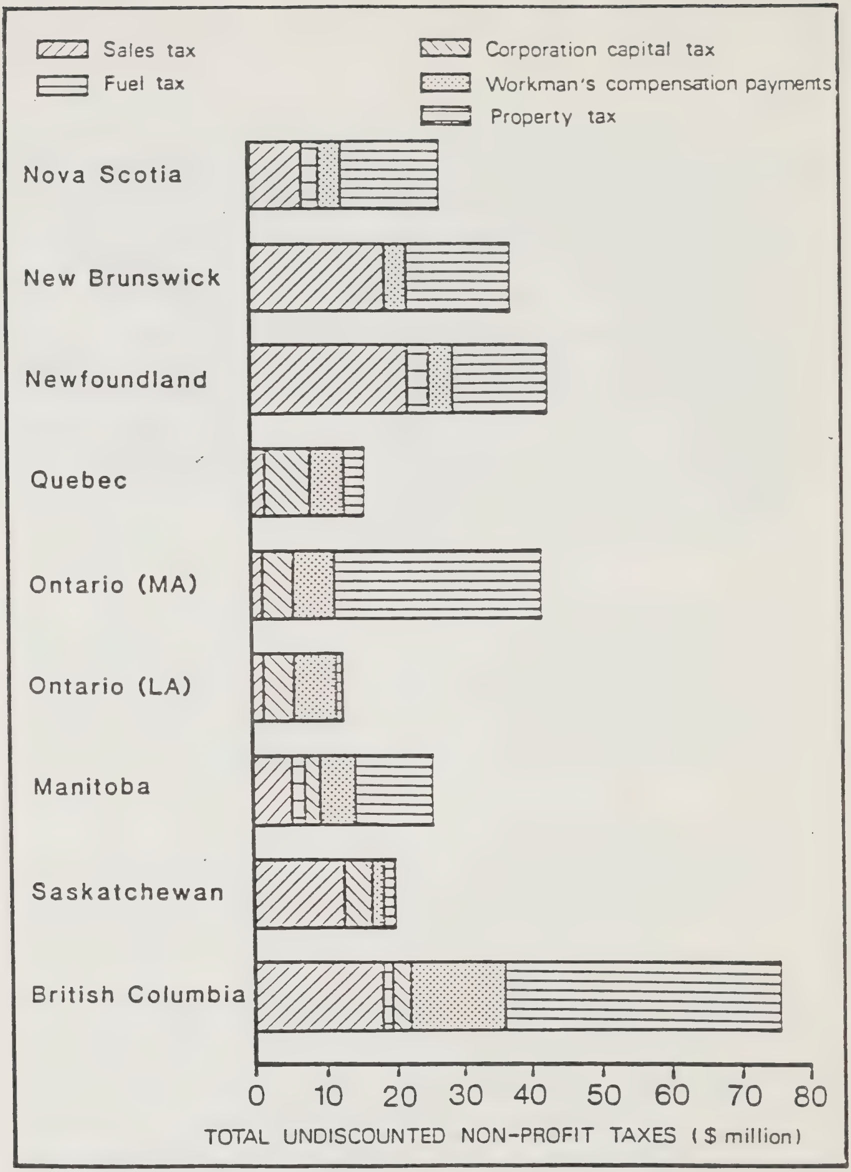


Figure 3. Total Non-Profit Tax Payments and Components: Tungsten Project, Nova Scotia Base Case Conditions

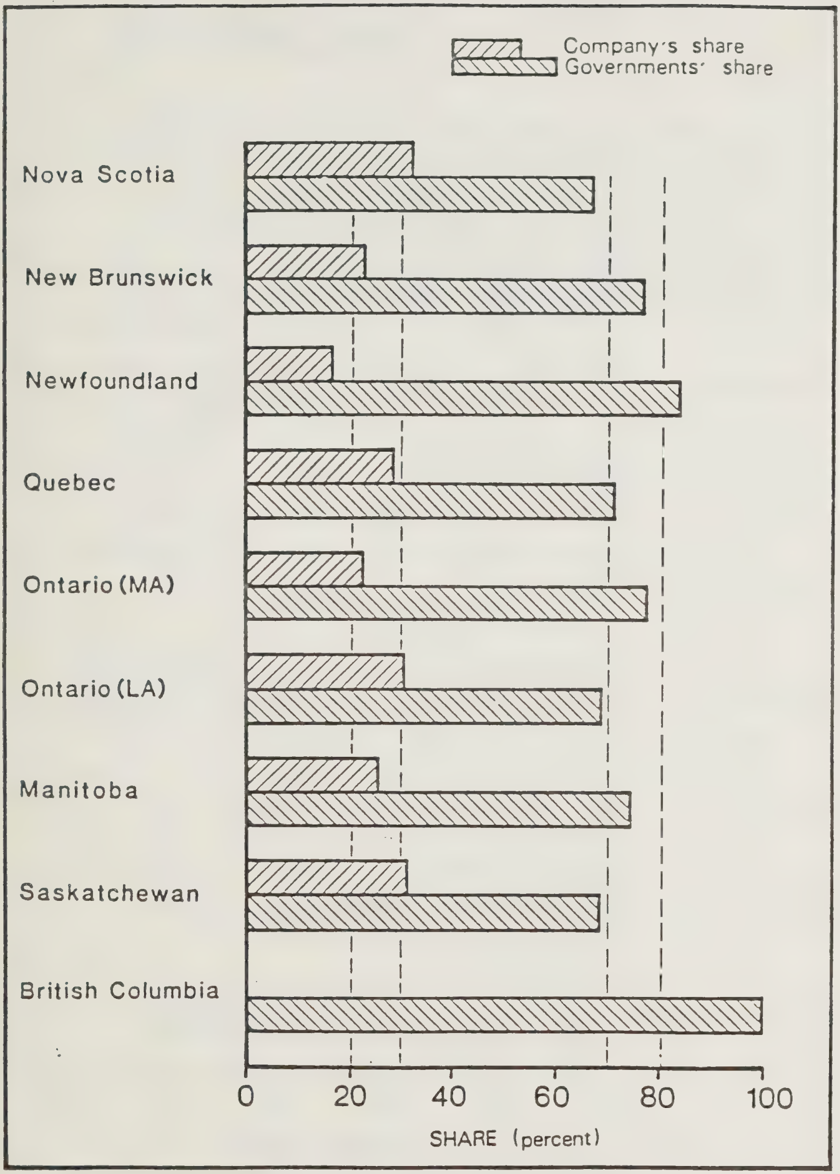


Figure 12. Company and Government Shares of Before-Tax Net Present Value: Tungsten Project, Nova Scotia Base Case Conditions

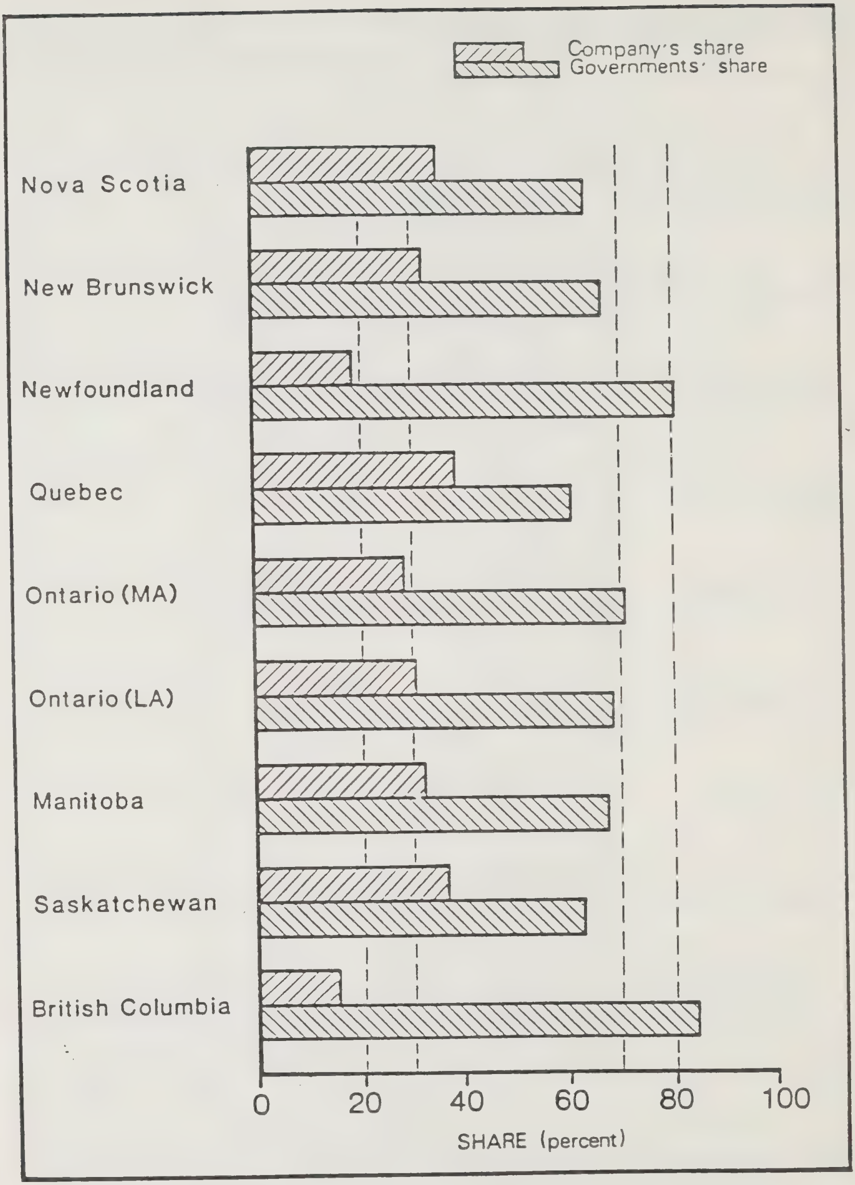


Figure 13. Company and Government Shares of Before-Tax Net Present Value: Gold Project, Nova Scotia Base Case Conditions

Table 27

EFFECT OF TAXATION OF ECONOMIC INDICATORS: NOVA SCOTIA BASE CASE CONDITIONS

	Tungsten Project		Gold Project	
	Net Present Value of 10% ($ million)	Rate of Return (percent)	Net Present Value at 10% ($ million)	Rate of Return (percent)
Before-tax results	75.9	18.5	8.5	25.5
After-tax results				
Taxation regime:				
Nova Scotia	25.0	13.3	3.0	16.7
New Brunswick	17.3	12.5	2.8	16.6
Newfoundland	13.0	13.1	3.3	17.3
Quebec	21.5	13.1	3.3	17.3
Ontario:				
More accessible site	17.0	12.5	2.4	15.5
Less accessible site	23.1	13.3	2.6	15.8
Manitoba	19.5	12.8	2.8	16.4
Saskatchewan	23.6	13.3	3.1	16.7
British Columbia	0.0	10.0	1.2	12.7

Table 30

TOTAL TAX PAYMENTS FROM TUNGSTEN PROJECT:
NOVA SCOTIA BASE CASE CONDITIONS

Taxation Regime	Taxation Payments ($ million)		
	Undiscounted	Present Value at 3%	Present Value at 10%
Nova Scotia	165.0	111.9	50.9
New Brunswick	200.3	134.2	58.6
Newfoundland	202.4	137.7	62.8
Quebec	190.1	126.6	54.4
Ontario:			
More-accessible site	200.2	13.42	58.9
Less-accessible site	187.1	124.1	52.8
Manitoba	193.9	129.6	56.4
Saskatchewan	179.8	120.1	52.2
British Columbia	240.6	164.3	75.9

Table 31

TOTAL TAX PAYMENTS FROM GOLD PROJECT:
NOVA SCOTIA BASE CASE CONDITIONS

Taxation Regime	Taxation Payments ($ million)		
	Undiscounted	Present Value at 3%	Present Value at 10%
Nova Scotia	12.3	9.5	5.5
New Brunswick	13.1	10.1	5.7
Newfoundland	14.7	11.5	6.9
Quebec	11.5	8.9	5.2
Ontario:			
More-accessible site	13.4	10.4	6.1
Less-accessible site	13.2	10.2	6.0
Manitoba	12.9	9.9	5.7
Saskatchewan	12.1	9.4	5.5
British Columbia	15.9	12.4	7.4

Table 32

TAX PAYMENT COMPONENTS FOR TUNGSTEN PROJECT:
NOVA SCOTIA BASE CASE CONDITIONS

(percent of present value of tax payments at 3%)

Taxation Regime	Tax Components				
	Federal Corporate Income Tax	Corporate Income Tax	Provincial Mining Tax	Provincial Royalty	Provincial Non-Profit Taxes
Nova Scotia	50.4	24.4	1.5	11.9	11.8
New Brunswick	42.0	20.3	21.7	5.7	10.3
Newfoundland	41.0	21.1	26.7	-	11.2
Quebec	44.6	7.9	42.9	-	4.6
Ontario:					
More-accessible site	42.0	18.4	28.6	-	11.0
Less-accessible site	45.4	19.9	30.9	-	3.8
Manitoba	43.6	22.4	26.4	-	7.6
Saskatchewan	47.1	24.2	21.8	-	6.9
British Columbia	34.4	24.9	24.9	-	15.8

Table 34

TOTAL TAX PAYMENTS EXPRESSED AS A PROPORTION OF BEFORE-TAX NET PRESENT VALUE AT 10%: NOVA SCOTIA BASE CASE CONDITIONS

(percent)

	Tungsten Project		Gold Project	
	Company's Profit Share	Government's Taxation Share	Company's Profit Share	Government's Taxation Share
Nova Scotia	32.9	67.1	35.3	64.7
New Brunswick	22.8	77.2	32.9	67.1
Newfoundland	17.2	82.8	18.8	81.2
Quebec	28.3	71.7	38.8	61.2
Ontario:				
More-accessible site	22.4	77.6	28.2	71.8
Less-accessible site	30.4	69.6	30.6	69.4
Manitoba	25.7	74.3	32.9	67.1
Saskatchewan	31.1	68.9	36.5	63.5
British Columbia	0.0	100.0	14.1	85.9

Table 37

TOTAL TAX PAYMENTS EXPRESSED AS A PROPORTION OF BEFORE-TAX NET PRESENT VALUE AT 10%: INTEGRATED COMPANY TAXATION, NOVA SCOTIA BASE CASE CONDITIONS

(percent)

	Tungsten Project		Gold Project	
	Company's Profit Share	Government's Taxation Share	Company's Profit Share	Government's Taxation Share
Nova Scotia	51.0	49.0	48.2	51.8
New Brunswick	40.7	59.3	45.9	54.1
Newfoundland	35.3	64.7	32.9	67.1
Quebec	44.3	55.7	50.6	49.4
Ontario:				
More-accessible site	41.2	58.8	42.4	57.6
Less-accessible site	48.6	51.4	44.7	55.3
Manitoba	43.9	56.1	45.9	54.1
Saskatchewan	49.0	51.0	49.4	50.6
British Columbia	24.5	75.5	31.8	68.2

Table 39

COMBINED IMPACT OF BEFORE-TAX AND TAXATION LOCATIONAL CONDITIONS ON ECONOMIC INDICATORS FOR TUNGSTEN PROJECT

Location	After-Tax Net Present Value at 10% ($ million)	After-Tax Rate of Return ($ million)
Nova Scotia	25.0	13.3
New Brunswick	17.3	12.5
Newfoundland	13.0	11.8
Quebec:		
More-accessible site	20.1	12.9
Less-accessible site	9.0	11.2
Ontario:		
More-accessible site	15.5	12.2
Less-accessible	10.6	11.4
Manitoba:		
More-accessible site	18.1	12.6
Less-accessible	6.8	10.9
Saskatchewan:		
More-accessible site	22.2	13.1
Less-accessible site	10.4	11.4
British Columbia:		
More-accessible site	-10.9	8.5
Less-accessible site	-27.1	6.5

Table 40

COMBINED IMPACT OF BEFORE-TAX AND TAXATION LOCATIONAL CONDITIONS ON ECONOMIC INDICATORS FOR GOLD PROJECT

Location	After-Tax Net Present Value at 10% ($ million)	After-Tax Rate of Return ($ million)
Nova Scotia	3.0	16.7
New Brunswick	2.8	16.6
Newfoundland	1.6	13.7
Quebec:		
More-accessible site	2.3	14.8
Less-accessible site	-1.9	6.9
Ontario:		
More-accessible site	1.5	13.2
Less-accessible	-2.3	6.3
Manitoba:		
More-accessible site	1.9	14.2
Less-accessible	-1.8	7.0
Saskatchewan:		
More-accessible site	2.1	14.4
Less-accessible site	-1.7	7.2
British Columbia:		
More-accessible site	-2.5	5.4
Less-accessible site	-9.5	-3.1

Energy, Mines and Resources (E.M.& R.) Models

Information on three models used by E.M.& R. was obtained from Ottawa and is summarized in this report. The models cover a range of larger type mining, and in one case (OCR) smelting and refinery operations. Capital and operating costs are based on 1984 numbers and tax regimes in effect as of March 31, 1985. Ore grades have been set unrealistically high to permit the analysis of different tax regimes under high profitability conditions.

In order to compare just the tax levels, all other factors were held constant, i.e. no allowance for regional variations in costs or higher costs for remote operations, no non-profit type taxes, and no special incentives were considered.

The E.M.& R. cases are also somewhat unrealistic because no interest charges are involved and no inflation factors are assumed.

In all cases, Ontario and B.C. vie for the highest tax level while Quebec is usually the lowest. The Federal Government Investment Tax Credit for the Maritime provinces substantially lowers the effective Federal tax level in this area. Although the general investment tax credit is being phased out, special credits will remain in place for the Atlantic provinces.

As shown in more detail elsewhere in this section, the three models are:

(a) The Underground Gold Copper Mine Model (The UGCM Model) - a 1500 t.p.d. underground copper gold mine and mill with a 20 year life.

(b) The Large Scale, Open Pit, Mine and Mill, Copper - Gold Operation Model (The OCM Model) - a large scale (21,000 t.p.d.), open pit mine and mill operation producing copper and gold with a 20 year life.

(c) The Mine-Mill-Smelter-Refinery Complex Model (The OCR Model) - similar to OCM but with the addition of a 100,000 ton per year smelter and refinery.

Analysis and Results for Five Provincial Jurisdictions

(a) The UGCM Model

The comparative tax numbers for this project as outlined on the next page show that the worst provincial jurisdiction is B.C. with a tax bite of $65.4 million with Ontario next at $59 million followed by New Brunswick at $52.5, Manitoba at $51.2 and Quebec the lowest at $34.3 or 43% less then Ontario. At a 10% NPV number, Quebec is still the easy winner with the PV of the tax take about half of Ontario. The 10% NPV numbers also show that the total tax bite in B.C. and Ontario at $26 - 27 million is approximately twice the company's portion of $12.7 - $13.4 million vs. an operation in Quebec where the government get $18.7 million and the company receives $21.2 million.

Underground Gold Copper Mine
(x $000)

Income Division Based on Profit Taxes

	Company	Federal	Provincial	Total Taxes
British Columbia				
NPV 0%	139,942	47,969	65,424	113,393
NPV 10%	12,712	10,689	16,549	27,238
NPV 15%	-9,625	5,540	9,238	14,778
Manitoba				
NPV 0%	152,896	49,262	51,177	100,439
NPV 10%	15,524	11,371	13,055	24,426
NPV 15%	-8,207	6,016	7,342	13,359
New Brunswick				
NPV 0%	157,828	42,962	52,545	95,507
NPV 10%	16,875	9,077	13,999	23,076
NPV 15%	-7,630	4,562	8,220	12,782
Quebec				
NPV 0%	171,029	47,969	34,336	82,306
NPV 10%	21,203	10,689	8,058	18,747
NPV 15%	-4,695	5,540	4,308	9,847
Ontario Pre-Budget				
NPV 0%	145,196	47,968	60,166	108,134
NPV 10%	13,893	10,688	15,368	26,056
NPV 15%	-8,992	5,538	8,604	14,143
Ontario Post-Budget (1985)				
NPV 0%	146,360	47,968	59,001	106,970
NPV 10%	13,389	10,688	15,871	26,559
NPV 15%	9,677	5,539	9,289	14,827

b) <u>The OCM Model</u>

As shown on the following summary tables, an operation in Ontario would pay substantially higher taxes then in any of the other jurisdictions studied (British Columbia, Manitoba, New Brunswick and Quebec). On an undiscounted basis, the total provincial tax was $152.1 million (34%) higher than Quebec, $163.0 million (37%) higher than Manitoba, $143.0 million (31%) higher than New Brunswick and $87.0 million (17%) higher than British Columbia.

Using the 15% discount numbers, the percentages are even more pronounced indicating that the taxes also are paid earlier in the operation's life. Ontario's rates are 52% higher than Quebec, 43% higher than Manitoba and New Brunswick and 25% higher than British Columbia.

Although this comparison was done before the 1985 tax changes, comparative studies carried out by E.M.& R. show little change under the new regulations.

Large Scale, Open Pit, Mine and Mill Copper-Gold Operation

Income Division Based on Profit Taxes

	Company	Federal	Provincial	Total Taxes
British Columbia (Project Basis)				
NPV 0%	879.6	400.4	523.1	923.6
NPV 10%	209.3	108.2	152.3	260.5
NPV 15%	88.5	62.4	91.7	154.2
British Columbia (Flow-Through or Integrated Company)				
NPV 0%	878.0	402.7	522.5	925.2
NPV 10%	247.1	80.5	142.2	222.7
NPV 15%	135.4	27.8	79.4	107.2
Manitoba (Project)				
NPV 0%	960.0	405.8	437.4	843.2
NPV 10%	229.2	110.0	130.6	240.6
NPV 15%	99.3	63.3	80.0	143.3
New Brunswick (Project)				
NPV 0%	966.6	378.9	457.7	836.6
NPV 10%	240.5	95.5	133.7	229.2
NPV 15%	109.8	52.2	80.7	132.9
Quebec (Project)				
NPV 0%	954.4	400.4	448.3	848.7
NPV 10%	235.3	107.4	127.1	234.5
NPV 15%	105.8	61.5	75.3	136.8
Ontario (Project)				
NPV 0%	802.3	400.4	600.4	1,000.8
NPV 10%	177.4	108.2	184.1	292.3
NPV 15%	65.6	62.4	114.6	177.1

(c) The OCR Model

A summary of the division of income based on profit taxes is shown on the next page. This case is a major project and high metal grades were selected in order to show a highly profitable operation. In this example, the operation based in British Columbia would pay the highest provincial and total taxes at $570 million and $1.0 billion respectively. Ontario is next highest at $481 million and $926 million. As usual Quebec is the lowest tax jurisdiction of the 5 provinces studied with a provincial tax bill of $232.5 million (less than half of the Ontario taxes). An operation in New Brunswick pays approximately $100 million less in Federal taxes than in Quebec, Ontario, Manitoba and British Columbia because of the higher investment tax credit for the Maritimes.

Mine-Mill-Smelter-Refinery
(x $000)

Income Division Based on Profit Taxes

	Company	Federal	Provincial	Total Taxes
British Columbia				
NPV 0%	1,185,633	444,849	570,118	1,014,967
NPV 10%	188,349	107,057	152,770	259,827
NPV 15%	10,339	57,947	88,001	145,949
Manitoba				
NPV 0%	1,301,415	455,659	443,525	899,184
NPV 10%	218,298	110,930	118,948	229,878
NPV 15%	27,121	60,406	68,760	129,166
New Brunswick				
NPV 0%	1,468,418	351,622	380,559	732,182
NPV 10%	252,653	72,778	122,746	195,524
NPV 15%	41,023	36,113	79,151	115,264
Quebec				
NPV 0%	1,523,244	444,848	232,506	677,355
NPV 10%	281,049	107,057	60,070	167,127
NPV 15%	64,404	57,947	33,936	91,883
Ontario Pre-Budget				
NPV 0%	1,293,199	444,849	462,554	907,404
NPV 10%	214,006	107,057	128,056	235,113
NPV 15%	23,539	57,947	75,752	133,699
Ontario Post-Budget (1985)				
NPV 0%	1,274.5	444,849	481,287	926,136
NPV 10%	185,600	107,057	125,400	232,500
NPV 15%		Not Calculated		

UGCM(1984) Mining Company

(Basic Data)

1.	Life of operation	20 years
2.	Ore reserves, tons	10,500,000
3.	Average mill heads, % copper	2.25
4.	Average mill heads, oz. gold	0.15
5.	Daily mill rate, tons	1,500
6.	Annual mill rate, tons (350 days)	525,000
7.	Copper recovery in mill, %	95.00
8.	Gold recovery in mill, %	90.00
9.	Copper recovered annually in concentrate, pounds	22,443,750
10.	Gold recovered annually in concentrate, ounces	70,875
11.	Copper annual gross value @ 85¢/lb.	$ 19,077,188
12.	Gold annual gross value @ $480/ox.	$ 34,020,000
13.	Cash cost of mineral claims	$ 500,000
14.	Pre-production exploration	$ 3,000,000
15.	Pre-production development	$ 20,400,000
16.	Cost of mine buildings	$ 4,200,000
17	Cost of mine equipment	$ 9,000,000
18.	Cost of mill buildings	$ 12,600,000
19.	Cost of mill equipment	$ 40,500,000
20.	Cost of townsite	Nil
21.	Mine working capital (3 months operating costs)	$ 4,593,750
22.	Smelter-refinery copper recovery for mine's benefit, %	95.00
23.	Smelter-refinery gold recovery for mine's benefit, %	84.00
24.	Copper recovered for mine's benefit, pounds	21,321,562
25.	Gold recovered for mine's benefit, ounces	59,535
26.	Smelter-refinery operating cost/lb. copper	13.78¢
27.	Smelter-refinery additional operating cost/oz. gold	$ 10.91
28.	Smelter-refinery capital cost/lb. copper	8.58¢
29.	Smelter-refinery additional capital cost/oz. gold	$ 6.79
30.	Smelter-refinery profit/lb. copper	10.14¢

31.	Smelter-refinery additional profit/oz. gold	$	8.03
32.	Total smelter-refinery cost to mine/lb. copper		32.50¢
33.	Total additional smelter-refinery cost to mine/oz. gold	$	25.73
34.	Smelter-refinery charge per year to mine	$	8,461,344
35.	Copper marketing cost for mine (2.0¢/lb.)	$	426,431
36.	Gold marketing cost for mine ($1/oz.)	$	59,535
37.	Annual concentrate transportation ($26x44,887.5)	$	1,167,075
38.	Off-property exploration (in years 8 to 20)	$	300,000
39.	Off-property development (In years 8, 10, 12, 14, 16, 18)	$	300,000

40. Mine-Mill Operating Costs

	Per Ton Milled		Annual
(a) Mining	$19.00		$ 9,975,000
(b) Milling	7.50		3,937,500
(c) On-property exploration	0.50		262,500
(d) On-property development	2.00		1,050,000
(e) Administration	6.00	(M.O. $4.10)	3,150,000
		(H.O. $1.90)	
(f) Total	$35.00		$18,375,000

41. Net Smelter Return:

(a) Gross Value of copper in concentrates	$19,077,188
(b) Gross value of gold in concentrates	$34,020,000
(c) Smelter-refinery copper loss (5%)	$ 953,859
(d) Smelter-refinery gold loss (16%)	$ 5,443,200
(e) Smelter-refinery charge per year	$ 8,461,344
(f) Marketing cost to mine	$ 485,966
(g) Concentrate transportation	$ 1,167,075
(h) Net Smelter Return	$36,585,744

42. Mine-Mill Operating Profit:

(a) Net Smelter Return	$36,585,744	100.00%
(b) Mine-Mill Operating Costs	$18,375,000	50.22%
(c) Mine-Mill Operating Profit	$18,210,744	49.78%

43. Replacement Capital Costs:

(a) Mine equipment - 5% of original cost in years 3, 5, 7, 9, 11, 13, 15, 17 and 19 — $ 450,000

(b) Mill equipment - 3% of original cost in years 3, 5, 7, 9, 11, 13, 15, 17 and 19 — $ 1,215,000

44. Operating Costs are Constant throughout 20 Years

UGCM(1984) MINING COMPANY

Medium-Size Mine-Mill Underground Complex
Capital Expenditure Schedule to Production

	ITEM	YEAR 1	YEAR 2	YEAR 3	TOTALS
1.	Preprod. Expl.	$3,000,000	$ -	$ -	$ 3,000,000
2.	Preprod. Develop.	500,000	12,300,000	8,100,000	20,900,000
3.	Mine Buildings	-	2,200,000	2,000,000	4,200,000
4.	Mine Equipment	-	5,400,000	3,600,000	9,000,000
5.	Mill Buildings	-	6,900,000	5,700,000	12,600,000
6.	Mill Equipment	-	16,200,000	24,300,000	40,500,000
7.	TOTALS	$3,500,000	$43,000,000	$43,700,000	$90,200,000

NOTE: Above schedule does not include working capital of $4,593,750 which is equivalent to 3 month's cash operating costs.

<u>OCM(1984) Mining Company</u>

(Basic Data)

1.	Life of operation	20 years
2.	Ore reserves, tons	147,700,000
3.	Average mill heads, % copper	1.50
4.	Average mill heads, oz. gold	0.03
5.	Daily mill rate, tons	21,100
6.	Annual mill rate, tons (350 days)	7,385,000
7.	Copper recovery in mill, %	95.00
8.	Gold recovery in mill, %	90.00
9.	Copper recovered annually in concentrate, pounds	210,472,500
10.	Gold recovered annually in concentrate, ounces	199,395
11.	Copper annual gross value @ 85¢/lb.	$178,901,625
12.	Gold annual gross value @ $480/ox.	$ 95,709,600
13.	Cash cost of mineral claims	$ 1,000,000
14.	Pre-production exploration	$ 5,100,000
15.	Pre-production development	$ 24,000,000
16.	Mine buildings	$ 10,500,000
17	Mine equipment	$ 54,900,000
18.	Mill buildings	$ 36,000,000
19.	Mill equipment	$174,000,000
20.	Cost of townsite	$ 21,000,000
21.	Mine working capital (3 months operating costs)	$ 12,923,750
22.	Smelter-refinery copper recovery, %	95.00
23.	Smelter-refinery gold recovery, %	84.00
24.	Copper recovered for mine's benefit, pounds	199,948,875
25.	Gold recovered for mine's benefit, ounces	167,492
26.	Smelter-refinery operating cost/lb. copper	13.78¢
27.	Smelter-refinery additional operating cost/oz. gold	$ 10.91
28.	Smelter-refinery capital cost/lb. copper	8.58¢
29.	Smelter-refinery additional capital cost/oz. gold	$ 6.79
30.	Smelter-refinery profit/lb. copper	10.14¢

31.	Smelter-refinery additional profit/oz. gold	$ 8.03
32.	Total smelter-refinery cost to mine/lb. copper	32.50¢
33.	Total additional smelter-refinery cost to mine/oz. gold	$ 25.73
34.	Smelter-refinery charge per year to mine	$ 69,292,948
35.	Copper marketing cost for mine (2.0¢/lb.)	$ 3,998,978
36.	Gold marketing cost for mine ($1/oz.)	$ 167,492
37.	Annual concentrate transportation ($26x420,945)	$ 10,944,570
38.	Off-property exploration (in years 8 to 20)	$ 4,500,000
39.	Off-property development (In years 9, 12, 15, 18)	$ 6,300,000

40. Mine-Mill Operating Costs

	Per Ton Milled		Annual
(a) Mining	$1.90		$14,031,500
(b) Milling	2.80		20,678,000
(c) On-property exploration	0.30		2,215,500
(d) On-property development	-		-
(e) Administration	2.00	($1.50 M.O.)	14,770,000
		($0.50 H.O.)	
(f) Total	$ 7.00		$51,695,000

(Stripping Ratio Assumed 1:1)

41. Net Smelter Return:

(a) Gross Value of copper in concentrates	$178,901,625
(b) Gross value of gold in concentrates	$ 95,709,600
(c) Smelter-refinery copper loss (5%)	$ 8,945,082
(d) Smelter-refinery gold loss (16%)	$ 15,313,536
(e) Smelter-refinery charge per year	$ 69,292,948
(f) Marketing cost to mine	$ 4,166,470
(g) Concentrate transportation	$ 10,944,570
(h) Net Smelter Return	$165,948,619

42. Mine-Mill Operating Profit:

(a)	Net Smelter Return	$165,948,619	100.00%
(b)	Mine-Mill Operating Costs	$ 51,695,000	31.15%
(c)	Mine-Mill Operating Profit	$114,253,619	68.85%

43. Replacement Capital Costs:

(a)	Mine equipment - 5% of original cost in years 3, 5, 7, 9, 11, 13, 15, 17 and 19	$ 2,745,000
(b)	Mill equipment - 3% of original cost in years 3, 5, 7, 9, 11, 13, 15, 17 and 19	$ 5,220,000

44. Operating Costs are Constant throughout 20 Years.

OCM(1984) Mining Company

Large Mine-Mill Open-Pit Complex

Expenditure Schedule to Attain Production

	ITEM	YEAR 1	YEAR 2	YEAR 3	TOTALS
1.	Preprod. Expl.	$5,100,000	$ -	$ -	$ 5,100,000
2.	Preprod. Develop.	1,000,000	12,000,000	12,000,000	25,000,000
3.	Mine Buildings	-	4,200,000	6,300,000	10,500,000
4.	Mine Equipment	-	21,960,000	32,940,000	54,900,000
5.	Mill Buildings	-	14,400,000	21,600,000	36,000,000
6.	Mill Equipment	-	69,600,000	104,400,000	174,000,000
7.	Townsite	-	12,600,000	8,400,000	21,000,000
8.	TOTALS	$6,100,000	$134,760,000	$185,640,000	$326,500,000

NOTE: Above schedule does not include working capital of $4,593,750 which is equivalent to 3 month's cash operating costs.

OCM(1984) Mining Company

(Basic Data)

Note: This model is the OCM (1984) Mine-Mill Model with a 100,000-ton-per-year Smelter and Refinery Added.

1.	Life of operation	20 years
2.	Ore reserves, tons	147,700,000
3.	Average mill heads, % copper	1.50
4.	Average mill heads, % gold	0.03
5.	Daily mill rate, tons	21,100
6.	Annual mill rate, tons (350 days)	7,385,000
7.	Copper recovery in mill, %	95.00
8.	Gold recovery in mill, %	90.00
9.	Copper recovered/year in concentrates, lb.	210,472,500
10.	Gold recovered/year in concentrates, oz.	199,395
11.	Cash cost of mineral claims	$ 1,000,000
12.	Preproduction exploration	$ 5,100,000
13.	Preproduction development	$ 24,000,000
14.	Mine buildings	$ 10,500,000
15.	Mine equipment	$ 54,900,000
16.	Mill buildings	$ 36,000,000
17.	Mill equipment	$174,000,000
18.	Smelter buildings	$ 39,000,000
19.	Smelter equipment	$156,000,000
20.	Refinery buildings	$ 16,500,000
21.	Refinery equipment	$ 67,500,000
22.	Townsite	$ 33,000,000
23.	Working Capital (3 month's operating costs)	$ 24,604,655
24.	Smelter-Refinery copper recovery, %	96.25
25.	Smelter-Refinery gold recovery, %	87.00

26.	Copper recovered as refined metal, lbs.	202,579,781
27.	Gold recovered as refined metal, ozs.	173,474
28.	Value of copper as refined metal @ 85¢/lb.	$172,192,814
29.	Value of refined gold @ $480/oz.	$ 83,267,520
30.	Marketing cost of copper (2.0¢/lb)	$ 4,051,596
31.	Marketing cost of gold ($1/oz.)	173,474
32.	Cost of concentrate transportation to smelter	$ 900,000
33.	Cost of copper transportation to refinery	$ 225,000
34.	Off-property Exploration (In Years 8 to 20)	$ 4,500,000
35.	Off-property Development (In Years 9, 12, 15, 18)	$ 6,300,000

36. Mine-Mill-Smelter-Refinery Operating Costs:

(a)	Mining	$ 14,031,500
(b)	Milling	$ 20,678,000
(c)	On-property exploration	$ 2,215,500
(d)	On-property development	-
(e)	Copper Smelting Costs	$ 24,309,574
(f)	Copper Refining Costs	$ 12,154,787
(g)	Gold Refining Costs ($10,91/oz.)	$ 1,892,601
(h)	Administration	$ 23,136,659
(i)	Totals	$ 98,418,621

37. Net Return:

(a)	Value of Refined Cu Recovered	$172,192,814
(b)	Value of Refined Au Recovered	$ 83,267,520
(c)	Marketing Costs	$ 4,225,070
(d)	Transportation Costs	$ 1,125,000
		$250,110,264

38. Mine-Mill-Smelter-Refinery Operating Profit:

(a)	Net Return	$250,110,264
(b)	Operating Costs	$ 98,418,621
(c)	Marketing Costs	$ 4,225,070
(d)	Transportation Costs	$ 1,125,000
(e)	Net Return	$151,691,643

39. Replacement Capital Costs (In Years 3, 5, 7, 9, 11, 13, 15, 17 and 19):

(a)	Mine equipment - 5% of Original Cost	$250,110,264
(b)	Mill equipment - 3% of Original Cost	$ 5,220,000
(c)	Smelter equipment - 3% of Original Cost	$ 4,680,000
(d)	Refinery equipment - 3% of Original Cost	$ 2,025,000

OCR (1984) MINING COMPANY

	Item	Year 1	Year 2	Year 3	Totals
1.	Preprod. Expl.	$ 5,100,000	$ -	$ -	$ 5,100,000
2.	Preprod. Develop.	1,000,000	12,000,000	12,000,000	25,000,000
3.	Mine Bldgs.	-	4,200,000	6,300,000	10,500,000
4.	Mine Equip.	-	21,960,000	32,940,000	54,900,000
5.	Mill Bldgs.	-	14,400,000	21,600,000	36,000,000
6.	Mill Equip.	-	69,600,000	104,400,000	174,000,000
7.	Smelt. Bldgs.	3,900,000	17,550,000	17,550,000	39,000,000
8.	Smelt. Equip.	15,600,000	70,200,000	70,200,000	156,000,000
9.	Ref. Bldgs.	1,650,000	7,425,000	7,425,000	16,500,000
10.	Ref. Equip.	6,750,000	30,375,000	30,375,000	67,500,000
11.	Townsite	1,160,000	15,920,000	15,920,000	33,000,000
12.	Totals	$35,160,000	$263,630,000	$318,710,000	$617,500,000

Note: Above schedule does not include working capital of $24,604,655 which is equivalent to 3 month's operating costs.

Price Waterhouse Mine Model

As shown in more detail on the table of assumptions, the Price Waterhouse model is a typical medium-sized, modestly profitable, underground gold mine producing 46,400 oz. of gold per year. Capital cost of $54.5 million are incurred over 3 preproduction years. These cases assume the more likely assumption that half the financing will be debt and half equity.

No regional variances, such as access, labour rates, municipal or capital taxes, are included. If the higher costs generally associated with operations in the Yukon, N.W.T. and B.C. were included, Quebec would undoubtedly have shown up as the best province for investment. If other Quebec incentives were included the pendulum would swing even more in favour of Quebec.

For this model, Ontario shows up as the worst tax jurisdiction for a medium sized underground gold mining investment. Of the total profit tax burden of $16.1 million, 80% was provincial and 20% federal. As shown on the following chart, all the provinces except Quebec (at 13%) have a provincial tax rate ranging from 30 to 36% (Ontario). The Maritime Provinces have their federal rate reduced from 7.2% to 4.2% or about 40% due to special incentives (Investment Tax Credit).

Jurisdiction	Initial Investment	Total Profit To Company	I.R.R.	Tax Level Fed.	Prov.	Total	Ratio Fed./Prov.
N.W.T.	$54.5	$39.0	9.0	7.1	5.5	12.6	1.3
Yukon	$54.5	$35.7	8.3	7.1	12.8	19.9	.55
Quebec	$54.5	$35.5	8.5	7.1	13.2	20.3	.54
Newfoundland	$54.5	$31.5	7.6	4.2	25.2	29.5	.17
New Brunswick	$54.5	$31.2	7.6	4.2	26.0	30.3	.16
Manitoba	$54.5	$30.4	7.5	7.2	24.7	31.9	.29
B.C.	$54.5	$30.3	7.5	7.2	25	32.2	.29
Ontario	$54.5	$28.5	7.3	7.1	29.1	36.2	.24
Ontario (Integrated)	$54.5	$37.2	20.4	2.1	27.0	29.1	.08

The Ontario integrated case shows how the internal rate of return improves if the taxpayer has sufficient resources profits from other mining operations to utilize earned depletion allowances and investment tax credits on an "as earned basis". In this situation the I.R.R. improves from 7.3 to 20.4 percent while the total profit only increases from $28.5 to $37.2 million. Some type of income debenture or flow-through financing mechanism would be of material assistance to junior companies trying to finance their own projects rather than turning them over to larger multinational companies.

MINE MODEL
ASSUMPTIONS

1.

Reserves	2,900,000 tons
Milling Rate	290,000 tons/year
Grade	.16 oz. au/ton
Production	46,400 oz. au/year
Operating Costs	$38/ton milled
Price of Gold	$500/oz.

2. The capital costs that are incurred prior to the commencement of commercial production are as follows:

	Year 1	Year 2	Year 3
Purchase of mineral rights	1,000		
Exploration expense	6,000		
Development expense	-	10,000	10,000
Cost of buildings, machinery, and equipment -			
Mining assets	-	10,000	8,000
Mill	-	4,500	5,000

No additional fixed assets are acquired following the commencement of production.

3. The interest rate throughout the period is 10%.

4. Financing: 1/2 equity; 1/2 debt.

5. $1,000 is spent each year on off-site exploration.

6. The 3% inventory allowance is ignored.

7. Provincial capital taxes are ignored. These particular taxes, which are deductible for income tax purposes, vary as to both rate and basis among the provinces.

SECTION V

ONTARIO SHARE OWNERSHIP PLAN (OSOP)

Introduction

As part of our Committee's mandate to review the competitive position of Ontario in the junior mining sector we have reviewed all the available information on the Quebec, Alberta and B.C. plans as well as the proposed Ontario plan as recommended by the T.S.E. and other parties. While we are in general agreement on the merits of such plans, we would prefer to see a Canadian plan rather than a plethora of provincial plans. Since the federal government does not appear to be moving in this direction, the provincial governments will have to take the initiative. Quebec has been the leader in this field and recently Alberta and B.C. have launched different types of plans. Although both of these recent plans are yet to be implemented they are not expected to be a major incentive for investments. In addition to the Quebec Stock Savings Plan (QSSP), the Quebec government has also provided up to $410,000 towards the start up costs of taking a new Quebec based company public. While the Quebec plan has generally been considered quite successful, the plan was broadly based and attracted too much investment towards the larger companies. The plan cost the Quebec Government $180 million in lost revenue in 1985. New guidelines came into force in 1985 to direct investment dollars towards the smaller companies. Although it was not generally set up for that purpose, the plan has helped a number of junior mining companies go public.

There are two basic reasons for an Ontario Share Ownership Plan (OSOP). First, the benefits of widely dispersed share ownership, plus many new public companies should improve Ontario's growth prospects. Second, to be competitive with other jurisdictions Ontario will have to seriously consider this type of program or other incentives. One of the functions of the plan would be to re-establish a primary risk capital

market in Ontario. Presently, only a few brokers are prepared to do smaller types of financings (i.e. under $1 million). A share savings plan should be designed to encourage this type of investment.

Summary of Recommendations

In general, we agree with the recommendations proposed by the T.S.E. and other Investment Dealers in that such a plan should help prepare the proper investment climate in Ontario. We would expect that junior mining companies would receive only a relatively small portion (10%) of the potential $400 million new equity capital that could be raised annually. However, this amount would provide an adequate base on which additional flow-through share capital (4 to 5 times) might be raised.

For the plan to be effective, the government would have front end costs in the order of $70 - $100 million per year. Any lesser amounts will be spread over too many companies to be important unless the plan is focused on a small band of companies. While the expenditure would likely be recovered by the government from additional business activity over a few years, such additional revenues are difficult to quantify.

In addition, such a plan would be helpful in stimulating private sector activity for doing smaller types of financing. Such financings are currently lacking in Ontario.

1. Eligible Securities: Newly issued voting common or convertible preferred shares listed on the T.S.E. or traded on COATS would be eligible. Flow-through shares would be excluded.

2. Eligible Companies: The eligibility net will depend on the amount of assistance the government wishes to provide. The Quebec system provided $180 million in credits in 1985. The proposed TSE program is estimated to cost about $80 million. Our proposal is to lower

the top companies from $500 million to $400 million in sales or gross revenues and include all the bottom companies. Companies with a net worth of up to $200 million and with 35% of their payroll and/or their main project (mining) in Ontario would be included. The upper level could be lowered further if insufficient funds are available.

3. Form of Assistance: Either a variable tax credit on personal income taxes from 10 to 30% depending upon the size of the company (per the Dominion Securities Pitfield submission) or a flat 20% rate per the T.S.E. recommendation. Depending on the level of success the government wishes to achieve, the maximum allowable annual tax credit could range from $2000 to $10,000. Initially we would suggest a level of about $3,000. The tax credit would be calculated on the basis of the net income to the treasury. (i.e. excluding broker's commissions)

	NET WORTH		
	$0 - 25	$25 - 50	$50 - 200
Sales x 10^6			
$0 - 50	Small	Small	Medium
$50 - 200	Small	Medium	Medium
$200 - 400	Medium	Medium	Large

Type of Company	Tax Credit	Maximum Annual Tax Credit by Category
Small	30%	$3,000
Medium	20%	$2,000
Large	10%	$1,000

A taxpayer could use any combination of tax credits up to the maximum per category and the overall maximum of $3,000 per year.

4. Estimate of New Equity Capital Annually: Estimates by the T.S.E. and others are in the order of $400 million or a little less than 5% of the total of $9 billion raised on the T.S.E. in 1985. Our recommendations would likely raise about the same amount.

5. Cost of OSOP Program: To have any material impact on the $9 billion dollar equity capital markets in Ontario, such a program needs to be either substantial or finely focused. The government has the option to (a) experiment with a pilot program ($30 - 40 million) on a small band of companies which will likely do little but provide some experience (b) try a mid-size program which would provide assistance to a broader range of companies or (c) take the Quebec approach (the larger the program, the more successful it is) and include a wide range of companies at a cost of $150 - $200 million per year. We recommend the second alternative with the emphasis on helping the most junior companies to be financed.

6. Estimated Assistance to Ontario Based Non-Producing Exploration and Development Companies: As shown in more detail under the junior mines financing section, this program, based on 1985 financings would only allocate about $3.7 million against junior mining companies. However if our recommendations for new security policies were accepted and this sector can be rejuvenated in Ontario, the levels of financing should increase substantially and the government assistance under this program could triple to approximately $10 million.

A Summary of 1985 financings of exploration and development mining companies in Ontario and the percentage available for OSOP is estimated below:

	Available $\times 10^6$	Not Available $\times 10^6$
1. Flow-through shares (mostly major companies) of companies listed on T.S.E	-	$143.6
2. EOP exploration companies - 6 (assuming all in Ontario).	$3.3	-
3. Non-producing mining companies (for projects in Ontario).	$6.0	$113.4
4. O.T.C. Companies (based on net to treasury of $12.6 - $14.4 million and 2/3 of projects in Ontario.	$8.4 - 9.6	$17 - $18
TOTAL	$17.7 - $18.9	$274 - $275

<u>The Proposed T.S.E. OSOP</u>

The plan is restricted at the bottom end to companies with both assets and gross revenues of more than $1 million, as shown in more detail in the Executive Summary of the T.S.E. proposal at the end of this section,. This restriction would eliminate all junior mining companies. On the top side, companies with both assets and gross revenues above $500 million would be excluded. The T.S.E. estimates a potential cost to the government of $80 million.

The Committee believes that the incentive should be directed to the smaller companies who normally have the most problems of raising risk capital. Our recommendations are that all junior mining companies be included based on money raised by the treasury for projects in Ontario and excluding flow-through shares. As shown under the section on Junior

Mine Financing, this incentive for junior mining companies would only cost the government about $3.7 million based on 1985 results. Hopefully this amount will be tripled if the improved regulations are implemented.

We understand that the government has initially set a low budget number for this incentive. We respectfully point out the large size ($8.9 billion) of equity financing on the T.S.E. in 1985. Unless the incentive program is substantial or finely focused, a small amount of assistance would be dissipated over many companies and have no material effects.

Assistance for Start-up Costs

The Quebec government provides a grant of $10,000 for preliminary studies and a grant of up to $400,000 (when $3 million is raised) to cover the cost of taking a company public. The latter grant is overly generous and according to the last budget, it will be amended.

We understand that the Ontario government is willing to consider some type of assistance for start-up costs of taking a company public. Our recommendations are as follows:

1. That the grant be limited to 1/3 of the eligible costs up to a maximum amount of $150,000 (maximum grant $50,000).

2. Eligible expenditures would include the normal costs of taking a company public (e.g. legal, accounting, engineering, printing, translation, and listing expenses). Costs specifically excluded would be brokers fees and expenses, management salaries and expenses, promotional expenses and any property expenses.

EXECUTIVE SUMMARY

The Toronto Stock Exchange is putting forward **The Ontario Share Ownership Program (OSOP).** The program is an attempt to mount an effective attack on the equity capital problem.

This Program is designed to benefit all **Ontario residents, especially low and middle income Ontarians.** Features of this Program will act to enhance productivity and worker job satisfaction, allowing Ontario firms to become more competitive in domestic and world markets.

In the process of developing OSOP, we surveyed extensively the attitudes of the Ontario public. **The survey results show that some 86% of all Ontarians, employees and non-employees, believe that Employee Equity/Profit Sharing Plans are a good idea. In addition, a total of 77% of Ontarians stated that they would participate in an ESOP should they have the opportunity.**

The proposed Program would allow Ontario firms, especially small and medium sized firms, to augment their equity capital position thus reducing debt equity ratios and diminishing their risk of failure or the necessity of employment cutbacks during times of economic downturn. The program would also broaden and deepen the Ontario equity markets.

In addition, the OSOP Program will **encourage employee share ownership**, thus providing the benefits of increased employee attachment to the firm; increased incentives to productivity improvement; and increased flexibility in the economy (by increasing the extent to which the remuneration from employment is tied to the success of the firm rather than to fixed wages and salaries). **By giving employees a stake in their firms of employment, the Program will also tend to improve labour-management relations.**

The major characteristics of the Program are as follows:

- Eligible Companies:

  - more than 35% of total payroll in Ontario
  - head office or principal office in Ontario
  - less than 50% of their assests in financial assets
  - both assets and gross revenues less than $500 million but more than $1 million
  - publicly traded on The Toronto Stock Exchange or the Canadian Over-the-Counter Automated System (COATS). Initial public offerings would have to be either conditionally appproved for listing on the TSE or be traded on COATS

  or

  non-publicly traded companies but shares must be distributed to existing shareholders and/or employees to a registered and trusteed Employee Share Ownership Program (ESOP)

- <u>Investor incentives:</u>

  - tax credit earned through the purchase of newly issued, non-redeemable common shares or newly listed, non-redeemable preferred shares which are convertible into common shares of qualifying Ontario companies.
  - Maximum annual contribution of $10,000
  - Maximum annual tax credit of 20%; lower tax credits applicable to different types of eligible companies

- <u>Other features:</u>

  - the dollar value of contribution to such a Program would have to be maintained for a minimum of two years, otherwise the tax credit repayable to the Government.
  - shares held in Program (other than ESOP) may be exchanged for other shares of qualifying companies but total value of portfolio must be maintained.
  - shares held in an account either:

    1) with licensed broker or investment dealer for publicly traded shares.

    2) with a trustee or non-publicly traded shares or shares that are part of an ESOP.

SECTION VI

FLOW-THROUGH SHARES

Summary

As shown by the questionnaire to industry on what incentives the Ontario government might provide to encourage exploration in Ontario, the possible increase in the depletion allowance on exploration expenditures from 133% to 166% was by far the most popular choice and the Committee has favourable views on such an incentive provided it is restricted to the junior resource sector. However in the time period from January to May 1986, it became evident that there were substantial (and probably sufficient) flow-through dollars available for most companies this year without the double depletion allowance. The junior companies receive the lowest premium and have the poorest access to the flow-through share market. While it might be possible to implement a specific double depletion program for junior companies, the Committee decided that since such a program would require the concurrence of the federal authorities, other recommendations would be made for priority action.

However the government should carefully monitor exploration expenditures, and if these expenditures drop off to an undesirable level, an increased depletion allowance could than be considered to promote the flow of exploration funds from individuals. At that time, negotiations should be initiated with the federal government to set up and administer a mechanism to permit the bonus deduction in such a manner that will not discriminate against the Ontario incentive (i.e. administered in the same manner as the Quebec incentive).

If and when, an extra depletion allowance is implemented, the OMEP program could be withdrawn with respect to individuals. In the meantime, we have made a number of recommendations in a separate section on increasing OMEP and making it more effective.

Financial Incentives for Exploration in Ontario

Introduction

At present, the government of Ontario provides financial assistance to encourage exploration in the province by two methods, OMEP and flow-through of exploration and depletion deductions.

Under the Ontario Mineral Exploration Program (OMEP), the government will reimburse companies and individuals for up to 25% of certain agreed upon exploration expenses up to a maximum of $500,000 in one year. The total 1986 budget is $8 million. A number of recommendations for improving OMEP and making it available only to junior companies is contained in another section.

In 1983 the federal government significantly enhanced the tax incentives for grassroots mining exploration by permitting the earned depletion base generated by such expenses (mining exploration depletion) to be deducted against any source of income. This change in effect permits the deduction of 133 1/3% of qualifying expenses. Since Ontario is an agreeing province, individuals resident in Ontario also obtain the benefit of this incentive for Ontario tax purposes. In 1985 the federal government introduced a limited lifetime capital gains exemption, to be phased in over a six year period. The combination of these initiatives has generally made the investment in 'flow-through shares' of mining companies very attractive. It is the consensus of the Committee that on an overall basis, the fiscal regime has generated an adequate availability of funding for exploration where it is practical to use the flow-through share mechanism.

However, using flow-through shares to finance exploration is only effective for corporations having listed (or otherwise marketable) shares with a reasonably stable share price history. Junior exploration

companies have difficulty in tapping this source of funds either because of lack of a quoted market or because the market value of their shares is dependant upon the success of a particular program. In order to attract investors into flow-through or regular shares offered by a junior explorer, there needs to be some additional incentives directed towards investors in these companies. The Committee recommends that Ontario consider additional incentives for exploration in Ontario by or through junior exploration companies.

In this section the merits of double depletion for junior companies is discussed for possible implementation at a later date.

Structure of an Incentive for Exploration in Ontario

Ontario has in place a grant program to encourage exploration in Ontario, the Ontario Mineral Exploration Program. This program has proved effective, especially in assisting junior exploration companies in particular circumstances, but some improvements are recommended in a separate section of this report. However it is the view of the Committee that if junior companies are to be made competitive in attracting 'flow-through' funds, some additional incentives are required. One possibility is the double depletion incentives as used by Quebec and described below.

The Province of Quebec has a broadly based incentive, that is directed solely to individuals, and is delivered through the Quebec tax system. The Quebec Exploration Account provides a 66 2/3% bonus deduction in computing income subject to Quebec income tax. The Quebec incentive has generated very significant funding for exploration in that province by Quebec individuals, mainly by way of flow-through shares. The Quebec incentive has proved very successful for two main reasons. First, it is delivered through the tax system, giving the advantages of:

- reduced administrative costs to the exploration company, as compared to applying for, and distributing grants to investors;

- less uncertainty that the investor will obtain the incentive since there is no requirement for prior review of a program or subsequent approval of expenses before the incentive is delivered;

- no limiting amount either for a particular program or a particular individual; and

- a known date for receipt of the incentive.

Second, the Quebec incentive is administered by both the federal and provincial authorities as not reducing the amount of deductible Canadian Exploration Expense (CEE). In contrast, a grant incentive, such as OMEP, must be applied to reduce the deductible CEE. The Quebec incentive is therefore more tax effective in that it does not affect the federal incentive deductions.

In the opinion of the Committee, Ontario should provide an additional incentive to individuals to incur exploration expenses in Ontario either directly or by investment in flow-through shares of junior corporations. Further, it is highly preferred that such an incentive be provided through the tax system, and that it be structured so that it is tax effective. The Committee recognizes that since Ontario is an agreeing province with respect to the taxation of individuals, the agreement of the federal authorities is required with respect to the administration, and appropriate interpretation, of such a tax system incentive. If such agreement cannot be obtained, the Committee recommends that the OMEP system be strengthened and improved as described in a separate section of this report.

An Exploration Incentive Delivered Through the Tax System

It is the view of the Committee that an exploration incentive delivered automatically through the tax system would be much more widely used by residents of Ontario than is the present OMEP system, and would generate more exploration dollars for exploration in Ontario from individuals residing in Ontario.

As noted previously, Ontario already participates in the federal incentive scheme that provides a bonus deduction for defined mining exploration expenses incurred anywhere in Canada. Ontario could provide an additional bonus deduction with respect to mining exploration expenses incurred by an individual in Ontario, either on properties owned by the individual, or (by way of flow-through shares) on properties owned by a corporation that does not have any producing mines. The intention would be to streamline the incentive to the benefit of the junior sector and that the additional bonus deduction be one-third of the eligible expenses. Together with the existing bonus deduction for mining exploration depletion, this would mean that the total provincial bonus deduction would be 66 2/3%, the same as is available in Quebec, thus making the Ontario junior resource sector more competitive, both with the Quebec junior resource sector and with senior mining companies.

Since Ontario is an agreeing province, the mechanism for administering the bonus deduction would be a separate reconciling schedule filed with the combined federal/Ontario tax return, similar to the reconciling form required to obtain an Alberta royalty tax rebate. It would be necessary to obtain the agreement of the federal authorities to administer this arrangement; such agreement has precedents such as the Alberta form mentioned above. Further, in order to be as tax effective as the Quebec bonus deduction, the federal authorities should be asked to agree that the incentive will <u>not</u> be treated as reducing the cumulative CEE account or the Mining Exploration Depletion (MED) account for

purposes of determining the deduction available in respect of these accounts. In this respect Ontario is only asking for the same treatment that is accorded the Quebec incentive deduction; Ontario residents should not be discriminated against by the federal authorities simply because Ontario has entered into a tax collection agreement with Ottawa.

Summary of Effect on Investor After Tax Cost

Schedule One illustrates the after tax cost to an Ontario individual incurring mining exploration expenses under the present system, for the case where no OMEP grant is available, and the case where an OMEP grant is received.

Schedule Two compares the after tax cost to a Quebec individual incurring qualifying and non-qualifying mining exploration expenses for the Quebec exploration account deduction.

Schedule 3 illustrates the after tax cost that would result to an Ontario investor incurring exploration expenses in Ontario that qualify for the proposed Ontario bonus deduction.

A number of observations are worth noting;

- the after tax cost to the investor is approximately the same under the proposed bonus deduction as is the case if a full OMEP grant were available. The advantage of the flow-through system to the investor is that all, and not just some, of the eligible expenses would qualify.

- the Ontario government's contribution to a particular expenditure under the flow-through system costs less than a full OMEP grant for that expenditure, thus enabling Ontario to stimulate more expenditures at the same cost.

- the system would provide a 22% reduction in after tax cost to an investor investing in flow-through shares of a junior company exploring in Ontario (20.4 under the proposed system vs. 26.2 under the 'no OMEP' present system) compared to flow-through shares of a producing company. This advantage to the junior sector would help offset the many relative advantages enjoyed by more senior companies in the competition for exploration funds.

Consideration of Cost/Benefit to Ontario for Providing Additional Incentives to Ontario Resident Individuals to Incur Exploration Expenses in Ontario, Either Directly or Through Flow-Through Shares of Junior Companies

A broadly based incentive such as that proposed above would cause more money in absolute terms to be raised by the junior sector for exploration in Ontario. To meet these new market opportunities, explorationists will redirect programs to Ontario.

There are too many variables involved to permit any significant cost/benefit analyses, but it is apparent that the cost to Ontario of the proposed incentive program could not be excessive:

(a) in the case of expenditures that would have been eligible for OMEP, the new system would reduce the cost to Ontario from 42½% of the expenditure to only 29.1% of the expenditure.

(b) in the case of expenditures that would have been incurred without the incentive and would not have been eligible for OMEP, the cost to Ontario would increase by 5.8% of the expenditure.

(c) in the case of expenditures that would have been incurred by Ontario residents in Canada but outside Ontario, and are

redirected to Ontario, Ontario would gain expenditures in the province at a cost of only 5.8¢ on the dollar of expenditure.

(d) in the case of expenditures that would not otherwise have been incurred, but are incurred in Ontario because of the incentive, the total immediate cost to Ontario would be 29.1¢ on the dollar of expenditure.

The incentive would be directed to the junior resource sector, which has always been the sector that actually finds the resources that become major mining camps.

SCHEDULE 1

Ontario resident individual - incurring 'grassroots' mining exploration in Ontario. Has sufficient income to utilize all income tax deductions against top rate income.

		No OMEP	Full OMEP
CEE incurred		100	100
OMEP			25
CEE deduction		100	75
MED deduction		33.3	25
Total deduction		133.3	100
Tax saving			
Federal (1986 budget)	37.91%	50.5	37.9
Ontario	17.51%	23.3	17.5
	55.42%	73.8	55.4
After tax cost		26.2	19.6
Ontario assistance		23.3	42.5

Ignores any Alternative Minimum Tax effects

SCHEDULE 2

Quebec resident individual - incurring 'grassroots' mining exploration in Quebec. Has sufficient income to utilize all income tax deductions against top rate income.

	Does not qualify for QEA	Qualifies for QEA
CEE incurred	100	100
MED	33.3	33.3
Total federal deduction	133.3	133.3
Federal tax saving - 32.30 (1986 budget)	43.0	43.0
CEE deduction	100	100
MED	33.3	
QEA		66.7
Total Quebec deduction	133.3	166.7
Quebec tax saving - 27.16% (1986)	36.2	45.3
Total tax relief	79.2	88.3
After tax cost	20.8	11.7
Quebec assistance	36.2	45.3

Ignores any Alternative Minimum Tax effects

SCHEDULE 3

After tax cost if Ontario was to structure an additional 33 1/3% bonus deduction for Ontario exploration <u>and</u> the federal government agreed the reduced Ontario tax did <u>not</u> reduce CCEE for federal purposes:

Ontario Qualifying CEE		100
MED		33.3
Total deductions		133.3
Tax saving		
Federal (1986 budget)	37.91%	50.5
Ontario	17.51%	23.3
	55.42%	73.8
Ontario bonus deduction;	33.3	
Ontario exploration rebate @	17.51%	5.8
Total tax reductions		79.6
After tax cost		20.4
Ontario assistance		29.1

SECTION VII

ONTARIO TAXES ON MINING AND RECOMMENDED CHANGES

Ontario Mining Tax

In the Ontario budget of October 24, 1985, the Treasurer proposed basic reform of the mining tax system, in particular removing the marginal rate scale (which certainly acted as a disincentive to investment) and instituting a flat-rate 20% tax. At the same time it was proposed that the profit allocated to processing (and thus not subject to mining taxes) could not exceed 50% of the combined profit from mining and processing Ontario ores. This is clearly an unrealistic limit that could cause reduced investment in processing facilities. In a speech to the Ontario Mining Association in April of 1986, the then Minister of Northern Development and Mines announced that the limit for the profit allocated to processing would be increased again to 65% of combined profit. In the view of the Committee, the reforms proposed in the 1985 budget together with the announcement regarding processing allowances, should result in a mining tax system in Ontario that is generally competitive with that of the other Canadian mineral producing provinces.

We do have one recommendation. In our view a basic principle of taxation of new mines should be that an operator be able to recover his capital investment before cash flow must be used to pay taxes on income. This basic principle is followed in both the federal and Ontario income tax regimes. In Ontario, mining assets are eligible for a 100% deduction for exploration and development expenses, and accelerated depreciation. This means that if an operator does no processing he will recover his capital investment before mining taxes become eligible. Where the economics of mine development require that processing assets be acquired in order to bring the property into production, investment in processing assets is just as much at risk as is investment in mining assets. We

recommend that processing assets acquired for the purpose of bringing a new mine into production be eligible for accelerated depreciation.

Ontario Corporate Income Taxes

The following elements are common to all corporate taxation legislation in Canada.

1. Exploration and new mine development costs are 100% deductible with full carry forward for amounts not deductible in the year incurred.

2. Accelerated capital cost allowance deductions are available in respect of fixed assets acquired for a new mine or a major expansion of an existing mine.

3. Provincial mining taxes are not deductible in computing income subject to the corporate income tax.

In the case of the federal, Quebec and Alberta systems, a formula resource allowance deduction is available that is intended to compensate for the lack of a deduction for provincial mining taxes. (In the case of Alberta, if the resource allowance does not provide full compensation, an additional deduction is available.) The resource allowance deduction is 25% of defined production income--after operating expenses and capital cost allowance claims but before deductions of interest and exploration and development expenses. The treatment of interest is consistent with the concept that resource allowance compensates for denial of a deduction for mining taxes. Interest is generally not deductible in computing income subject to mining taxes. Interest does not erode the base on which the resource allowance is calculated. In contrast, the resource allowance concept provides a specific incentive to incur exploration and development expenses. Such expenses are deductible in computing income

subject to mining taxes but do not reduce income for purposes of the resource allowance.

The federal, Quebec, and Alberta systems provide additional incentives for exploration, development and new mine asset acquisition through an earned depletion system. One third of eligible expenditures is added to the Earned Depletion Base. This base may be deducted to the extent of 25% of resource profits (33 1/3% for Quebec income tax purposes) after the resource allowance and after exploration, development and interest deductions. This system of bonus deductions encourages expenditure and rewards effort.

Ontario corporate income tax rules do not provide for the resource allowance and earned depletion deductions. Instead, defined mining production income is eligible for a 33 1/3% automatic depletion deduction. The income eligible for this deduction is production income less operating expenses, capital cost allowance claims, interest expense and exploration and development expenses. The automatic percentage depletion deduction is viewed as compensation for lack of a deduction for mining taxes and a reduced effective tax rate that recognizes the high risk of mining endeavours. To the extent percentage depletion gives a lower effective tax rate, it rewards successful risk taking.

It is apparent that the Ontario automatic percentage depletion system will result in a lower taxable income (than the resource allowance/earned depletion system) in the case of a mature mining company that does not devote a significant portion of its cash flow to exploration and development or debt servicing costs. However, for a company starting production, with unclaimed exploration and development costs and significant debt financing, the resource allowance/earned depletion system provides greater tax relief than the automatic percentage depletion system now in place in Ontario. Although the Committee tends to prefer a tax system that rewards success and not just effort, it also is

of the view that it is the start up situation that deserves and requires the greater tax incentives. Accordingly we recommend that Ontario consider adopting in its corporate income tax rules the resource allowance/earned depletion system that is in place in all other Canadian jurisdictions.

Assistance to Financing of Preproduction Development Expenses and Acquisition of Depreciable Assets for New Mines

The mechanism that permits individual investors to deduct both the Canadian exploration expense and the related mining exploration depletion has substantially increased the funding available for exploration as described under the section on Flow- Through Shares. The 33 1/3% bonus deduction for mining exploration depletion applies only to expenses incurred for the purpose of determining the existence, location, extent and quality of a mineral resource. In general terms these expenses cover the search for and the proving-up of reserves to the point where a feasibility study has been completed and a decision made to bring a mine into production. It is at this stage that the junior mining company is again at a severe disadvantage compared to the major corporations. Both equity and debt funding are much more difficult for the junior company to raise.

We have two recommendations for changes that would assist in the raising of 'development' funds. In order to be effective, both these recommendations require changes in the federal income tax legislation. Representations have been made to the federal government by industry associations requesting such changes. Since these changes would be of considerable assistance to the development of new mines in Ontario, and be particularly beneficial to the junior mining sector, it is the Committee's view that Ontario should join with the industry in actively promoting these changes to the federal government.

Flow-Through Depletion for Development Expenses

The first recommendation deals with preproduction development expenses incurred, after completion of the feasibility study, to bring a new mine into production. These expenses qualify as another category of Canadian exploration expense and are eligible for 100% write off against income from any source. These expenditures earn a one-third premium deduction for 'earned depletion', but this earned depletion entitlement is only deductible against resource production and processing incomes. Preproduction development expenses can be flowed-through to individual investors in the same manner as 'grassroots' exploration expenses, but since the related earned depletion also flows to the investor (who cannot deduct it because he has no production income) this mechanism has limited attraction. Our recommendation is that earned depletion generated by incurring preproduction development CEE be deductible from any source of income, in the same manner as mining exploration depletion. In our view such a change would free up considerable flow-through funds for development work and greatly stimulate the bringing of new mines into production. Such a change is widely supported by the industry as evidenced by its high placing in the survey results reported under the heading 'Incentives for the Junior Mining Industry'.

Income Debentures for Production Financing

Bringing a new mine into production involves not only preproduction development expenses (such as sinking a production shaft, construction of underground working etc.) but also the acquisition of depreciable assets such as hoists, pumps, mining equipment, processing machinery and equipment and support facilities. Our second recommendation is that the tax system be revised to provide assistance in financing the acquisition of such depreciable assets acquired for the purpose of bringing a new mine into production, and, in particular, to assist in acquiring assets that qualify for inclusion in Class 28 for income tax purposes. In our view

the preferred mechanism would be the return of a special 'income bond' with the proceeds of issue strictly limited to the acquisition of Class 28 assets. The issuer of such an income bond could not deduct the interest thereon as an expense in computing income subject to tax and a holder of the bond would treat the interest received as a dividend for tax purposes. Such an instrument would allow the mine developer to raise funds secured by the assets and project cash flow at a significantly lower cost. It should be noted that government revenues deferred to the recipient by the dividend treatment of the interest would in time be recovered from operations since the interest is not deductible to the payer. The ultimate pay off in terms of new employment and wealth creation could be very substantial.

SECTION VIII

INCENTIVES FOR THE JUNIOR MINING INDUSTRY

Summary

The results from the first part of a questionnaire sent to junior resources companies asking how the Ontario government might improve the position of junior mining in the province are compiled below. On the basis of useable replies, the preference by far is to have the write-off for flow-through shares increased to 166%. Surprisingly, the elimination of capital gains taxes was the second most popular amendment.

On the basis of 10 points for first choice and 5 points for second and third choices the results are as follows:

	1st Choice	2 & 3 Choice	Total	Total Times in Top 3
1. Increase the write-off for flow-through shares to 166%	390	95	485	58
2. Eliminate capital gains taxes	100	100	200	30
3. Permit flow through depletion allowance for development work	20	150	170	32
4. Improve the tax and regulatory environment for junior mine financing	100	70	170	24
5. Increase OMEP	80	85	165	25
6. Provide grants for development work	10	100	110	21
7. Reduce corporate and mining taxes	30	40	70	11
8. Improve support services	10	55	65	12
9. Improve the data base	10	30	40	7
10. Provide a liaison person to guide companies through the regulatory process	10	20	30	5

The incentive questionnaire was developed by the chairman after discussions with a number of junior companies on how the Ontario government might help to make them more efficient, active and competitive. As a questionnaire was being sent to all the 1985 OMEP users (274), the incentive questionnaire and the OMEP questionnaire were combined and sent out with a covering letter. In addition, it was distributed to approximately 30 other major companies and individuals not on the OMEP list. Four OMEP letters were returned due to incorrect addresses.

The questionnaire was mailed out by the Ministry during the first week of March and distributed by the chairman at the Prospectors and Developers Association of Canada (PDA) convention in the second week. The first reply was received on March 18th and by April 18th, 94 replies were received (94 out of 300 or a 31% return). Only 76 forms were correctly completed and useable.

The questionnaire was purposely designed with a one to ten priority rating in order to make the companies and individuals think about and prioritize the incentives. It is evident from the replies and from discussions, that many junior companies did not understand fully some of the incentives. Others that did not reply are perhaps satisfied with the present systems.

Discussion of Results

A questionnaire can be biased by the tone or wording or by the order in which questions are asked. An attempt was made to make the wording as neutral as possible and to disseminate the more likely popular incentives throughout the list of questions. As the questionnaire was going essentially to OMEP users, we expected that a popular incentive would be to increase OMEP and were a little surprised to find it end up fifth place. The very strong first place standing for an increase of

exploration write-offs to 166%, might have been a little lower if the question had been further down the list. However, as its points standing was more than double the next question and triple the next three questions, and was included 58 times in the top three incentives, it is safe to say that the junior mining companies see this area as the best incentive. Flow-through shares only became popular in late 1984, but in 1986 they will likely be responsible for at least $500 million of Canadian exploration. Without this source of funds the industry would be only a shadow of its former self and very few new mining projects would be undertaking exploration and development. For a more complete discussion on increasing the depletion allowance, see the section on flow-through financing.

Eliminate Capital Gains Tax

The strong second place standing for the suggestion to eliminate capital gains taxes was surprising because of the number of other strong incentives listed and the current lifetime exemption of $500,000. The rationale must be a combination of: (1) high expectations by many junior companies that they will be successful; (2) that the exemption would provide better incentives, especially for flow through investors; (3) a general dislike of capital gains taxes; and (4) that promotors do not want capital gains treated like income without exemptions.

We believe that an Ontario capital gains tax would greatly discourage the raising of risk capital, keep promoters from returning to Ontario, discourage flow-through share financings and provide negative income to the province (from the junior mining sector). However, an Ontario capital gains exemption that extended beyond the Federal exemption would encourage the raising of risk capital in Ontario. A total exemption for capital gains tax on Canadian securities could be tied to a hold period of about five years.

Flow-Through Depletion for Development Costs

The Committee did not expect junior exploration companies would be very concerned about flow-through depletion for development work. However, a number of them have projects beyond the exploration stage and are certainly experiencing difficulty in raising development money. It is at this stage that a junior company often has to give up control to an integrated company that can write-off the development expenses against other income.

Even though flow-through depletion for development work falls under federal jurisdiction, the Committee decided it is important to advocate the needs of the junior mining industry in this area to the province because federal authorities usually blame the provinces for not wanting to implement this incentive. We understand that Quebec is seriously considering flow-through depletion for development costs and if Ontario would back it as well, the issue should get more attention from Ottawa. Some members of our Committee expressed concern that flow-through depletion for development might draw money away from exploration. However as evidenced from our survey, other meetings and PDA representations, the exploration industry is solidly behind the proposal.

Improve the Tax and Regulatory Environment for Junior Mine Financing

One of the reasons for the lower level of concern shown for this item could be that many of the companies were Vancouver based and already have an excellent regulatory and financing environment. On the basis of our meetings and discussions with Ontario based companies, the lack of any Ontario risk capital market was a major concern. The present government has recognized the problem and one of the principal reasons for this study is to improve these conditions. Improved financing conditions and other incentives should keep money in Ontario and stimulate development of mining operations in Northern Ontario.

Increase OMEP

Twenty-five replies listed this incentive in the top three choices which was not too surprising as the survey went primarily to OMEP applicants and the second part of the survey listed a number of possible improvements. There was general agreement from industry that the most efficient incentive would be to increase the flow-through depletion allowance and eliminate OMEP. Because Ontario does not have a separate income tax system for individuals, any tax-based incentive requires the agreement of the federal government and changes to the "purple page" form. It appears preferable at present to provide additional incentives through the OMEP system and a number of recommendations are contained in that section of the report.

Provide Grants for Development Work

The strong support for this incentive was surprising. Quebec has successfully used grants to push marginal projects into production. The approach there has been to provide up to 18% of the cost of a major item such as a shaft or mill as an outright grant. Quebec claims that since about 80% of the funds for the projects are spent locally, it has a net benefit on its investment within the first year along with the added benefit of long term jobs and taxes from the company project. However, recently Quebec has been studying a move away from grants to a flow-through share system for development expenditures. Ontario should consider both possibilities and again, because of the absence of a separate tax collection system, the grant process would be the easiest to implement. The Ministry could set aside $25 million in a special fund that would pay up to 18% of new projects and thereby encourage the development of new mining projects in Northern Ontario.

Improve Support Services and Improve the Data Base

While the last four incentives did not receive substantial support in the survey, we know the tremendous value of a good support service and data base from discussions we've had with industry over the past three months and from our own experiences. Perhaps if these two items had been combined, they would have attracted more attention. We believe that both of these items are essential and have discussed specific recommendations in a separate section. According to information provided to our Committee the Ministry has already started to implement positive changes in mining recorders' and regional geologists' offices.

The main emphasis on the data base should be:

(a) increased geological mapping and remapping
(b) additional regional geophysical and geochemical surveys
(c) compilation maps
(d) the electronic storage, retrieval and transmission of data.

Reduce Corporate and Mining Taxes Below the Level for Other Industries

Although our study on comparative taxation has shown that the tax load on a mining operation in Ontario is generally the highest or near the highest in Canada, taxation matters were not a major concern in our survey. Either most of the companies were a long way from being taxable or they don't mind paying high taxes if they are making a profit. The government has started to address this issue by lowering the high marginal mining tax rates and promising to restore the processing allowance back to 65 percent. As shown in the comparative taxation section, Ontario is currently not competitive with Quebec (on taxes and many other incentives). Therefore depending on the amount of new front-end incentives instituted, the province should try to marginally lower its total tax level.

Provide Liaison Person to Guide Companies Through the Regulatory Process

This suggestion attracted little attention, probably because while such a person could be helpful, its not a material benefit. Also most of the junior companies are currently only carrying out exploration work and have yet to face the regulatory mazes.

SECTION IX
REVIEW OF OMEP

Introduction

The Ontario Mineral Exploration Program (OMEP) was introduced in September 1980 to encourage mineral exploration in Ontario and replace the Mineral Exploration Assistance Program (MEAP). Under OMEP, grants and tax credits of up to 25% of eligible exploration expenses (to a maximum of $500,000) are available to individual entrepreneurs, junior exploration companies and other non-mining companies.

The purpose of the program was to act as a catalyst, by providing part of the risk capital, for the exploration and development of new mines in Northern Ontario.

From September 1980 to March 31, 1986, 1,513 programs have been designated for OMEP assistance amounting to $359 million in planned exploration expenditures. Only 920 of these programs have been completed representing total exploration expenses of $152 million of which OMEP contributed $30 million. This investment has created 379,000 person-days of employment generating $42 million in wages and the spending of $56 million in goods and services and $66 million in diamond drilling (753,000 metres). To date, OMEP has financially assisted 28 companies which have partially developed ore deposits with production potential in the foreseeable future (OMEP staff estimates).

OMEP Questionnaire

As part of the Committee's work on junior mine financing and the competitive position of Ontario in the mining sector, a two part questionnaire was mailed out to companies. The second part of the questionnaire dealt with OMEP and all 270 companies and individuals that had received an OMEP grant in the last year, received a copy. In addition, approximately 30 other companies and individuals were given the questionnaire and representatives of 12 companies were interviewed. The questionnaire is included at the end of this section.

A major questionnaire and interview survey to evaluate OMEP had been completed by Bullock Engineering Corporation in early 1984. This five page survey covered 27 prime questions and numerous sub-questions on the operation, effectiveness, problems, etc. of OMEP and solicited comments and recommendations to improve the system.

Most respondents appeared to be quite satisfied and happy about the operation of OMEP. The survey was quite complete and we saw no reason to re-assess most items. However, a number of changes had occurred in the intervening two years including a turnover of staff, a reduction of the number of programs from three to one per year, a tight budget, and flow-through share funding, all of which were causing some problems.

Discussion of Results

As expected, the major companies generally do not consider OMEP important and apply for it only to please their shareholders. Most of the junior companies and individuals surveyed, consider OMEP important but in need of improvement.

The Committee presents the following comments and recommendations based on 83 questionnaires and 12 interviews.

The users of OMEP rated OMEP's administration as follows:

Excellent - 14%; Good - 47%; Fair - 20% and Poor Needing Improvement - 16%. Ten replies that gave a rating of good or fair also added that improvements were necessary.

The responses to the four questions on whether any or all of the proposed changes would effect their exploration plans in Ontario were as follows:

> 54 replies (65%) favoured changing OMEP from a tax credit to a grant with a faster payout. The most common complaint we received was the long time delay (up to two years) from the time of expenditures to the receipt of the rebate.
>
> 56 replies (67%) favoured a payment of 50% upon official notice by the company that the expenditure has been made.
>
> 38 replies (46%) wanted no proof of ability to fund programs before applying while a substantial number were worried about frivolous applications. This requirement is obviously a problem area as a number of individuals and companies have expressed their dissatisfaction with having to provide audited statements or letters from their bank managers confirming their financial abilities. Many small companies don't have all their funds raised early in the year. In addition, because of the inability to add to a program during the year, an applicant must submit a maximum program (as he is encouraged to do by staff) at the beginning of the year. While for planning purposes, we see a reason for this requirement, the government loses nothing if the program does not go ahead and we suggest it be substantially relaxed.

59 replies (74%) were in favour of returning to the three programs per year limit. A number of replies suggested two programs which would certainly be sufficient for most junior companies. Under the current rules, companies have to gamble early in the year on which program might be successful and require the largest expenditures.

When asked whether the elimination of OMEP would effect their exploration plans in Ontario, 64 replies (83%) indicated that it would.

While there has always been a number of improvements possible with OMEP, the recent dissatisfaction is probably caused by the following factors:

1. The change from three programs to one program per year without prior notice. Many companies find it difficult to predict which property will be most successful and require funding.

2. Budget restrictions which have led staff to discourage applicants and/or be more bureaucratic with them.

3. The increased use of flow-through shares and the requirement that the grant flow-through to the investor (often expensive and difficult to administer).

4. The retirement and turn-over of experienced staff with new staff "following the rules".

Recommendations for Improving OMEP

As detailed in the section on flow-through shares, industry believes the most efficient manner to deliver incentives is through the tax system via flow-through shares. However there appears to be cur-

rently sufficient flow-through dollars available so the Committee recommends the following changes be made to OMEP in order to make that program more efficient, positive and useful for junior companies.

1. Consider changing OMEP rules to specifically target the junior resource sector. In 1980 it was perceived that producing companies had a significant exploration cost advantage over non-producers since a producing company was able to obtain full tax relief, in particular Ontario mining tax relief, for the expenditure. The OMEP program was introduced to redress this imbalance by lowering the cost of Ontario exploration to persons not having production in Ontario. Accordingly, OMEP incentives are only available to persons not actively engaged in mineral production in Ontario. An eligible corporation is one that has not conducted mining operations in Ontario for at least two preceding years.

   A major corporation that has producing mines outside Ontario qualifies for the OMEP incentive, as does a major oil and gas producer. Furthermore, if a corporation with production in Ontario funds exploration in Ontario by issuing flow-through shares, it appears the investors incurring exploration expenses in consideration for such shares would qualify for OMEP grants.

   It is the Committee's view that the availability of flow-through share funding to any large corporation reduces its need for OMEP assistance. Given the limited resources available to the province to provide incentives for exploration in Ontario, the Committee recommends that consideration be given to changing the OMEP program to focus the incentive on the explorationists that most need the funding - the junior resource sector. This might be accomplished by providing that a corporation not be eligible for the incentive if it, together

with any corporations with which it is affiliated, had aggregate gross revenues in excess of $10 million in 1986 dollars in the year preceding the application for approval of an exploration program. Also, if a corporation is not eligible for the incentive under this new limitation, then investors in flow-through shares issued by that corporation would not be eligible for OMEP grants.

2. Improve the flexibility and scope of the program by allowing an applicant to apply for two programs (until recently three programs were allowed). At present, an applicant has to gamble at the start of a year on which exploration program might meet with success. Depending on results, an applicant should be able to amend a program at least once during the year.

3. We understand that the current budget of $8 million is already allocated and recommend a substantial increase in the order of 100%. The Committee also recommends that the increased funds be available only to junior companies and individuals and that the maximum amount be limited to $250,000.

4. When applying for OMEP applicants should have the option of requesting a grant rather than the tax credit which eventually ends up being a grant. This approach should speed up and simplify the rebate process that now takes up to two years to process. Also, half of the grant should be reimbursable within 30 days of the Ministry receiving a sworn statement to the effect that the program has been carried out and the money spent. The other half should be payable 30 days after the report is submitted in satisfactory form.

5. The program should be administered in a positive and cooperative manner (regarded as a joint venture) and not as an income tax or security commission matter.

6. A joint committee should be set up with industry (P.D.A.) to constantly review OMEP procedures as well as to streamline forms and accounting requirements so that they more closely adhere to industry practice.

7. The requirement to prove the capability to finance a full program prior to application should be substantially softened or eliminated. If the company or individual is unable to raise the funds, then the program will not be carried out and no rebate is paid. Most junior companies do not have their full year's exploration budget on hand at the start of a year, so this requirement is often difficult to fulfill. The department's concern about companies raising money on the basis that the government has approved the program is not material and can be covered by a typical disclaimer.

8. The flowing-through of OMEP grants to shareholders has caused a number of problems and is also leaving companies short of working capital. With the proposed federal changes to the liability section of flow-through shares, a company will now be able just to renounce the tax write-offs to its shareholders. Therefore, the company could be credited with the expenditures and receive the OMEP grant rather than being required to pass it through to its shareholders. We would like to see the act changed to permit the company (at their option) either to keep the refund for working capital or flow it through to their shareholders.

However, unless the proposed federal changes are amended, an additional problem will lie in the federal tax department's treatment of the OMEP refund--which will likely be a reduction of investors' write-offs. Therefore, Ontario should consider permitting companies to use at least half of the grant for management costs which don't incur depletion credits. It should lobby Ottawa to amend the rules that reduce the federal exploration write-offs by the amount of the grant.

9. OMEP staff should be able to check with their own Ministry regarding the registered ownership of claims. We had reports of cases where clerks said they were too busy and required the company personnel to obtain the certifications. This is a small item and just one example of many frustrations.

OMEP Comments

The following comments (essentially unedited) were sent by OMEP users along with the questionnaire. The reader should keep in mind the human frailty to complain more than compliment. Many satisfied users undoubtedly didn't bother to return the questionnaire with their comments.

- OMEP is a financial boost for hard-pressed, straight-forward prospectors - also an emotional accelerator.

- The above questions have identified the main problems. Proof of funding slows down applications. Most problems are the time involved in applying, getting approval, and obtaining payment.

- The presence of OMEP grants has no real effect on exploration decisions. The existence of the program only partly compensates

for the difficulties of dealing with the regulatory climate in Ontario.

- OMEP has a bad habit of losing documents. I have on 3 occasions had to replace paperwork that has been lost or misplaced or that they can't be bothered to look for. If you complain, your application goes to the bottom of the pile.

- OMEP payments should always go to the company to cover overhead charges.

- Eliminate quarterly reports.

- Would appreciate better dialogue between applicant and government officials. Too often letter of refusal or partial refusal or rejection without proper discussion.

- OMEP's insistence on devaluation of equipment on basis of 12 months depreciation while allowing only number of days in actual use is grossly unfair. e.g. If depreciation allowance is for 130 days, equipment should only be devalued by that amount and not for 365 days as currently demanded.

- General lack of experienced explorationists with OMEP - private empire rather than service for the industry.

- It's not bad - any major "improvements" could result in broad scale abuse and cancellation.

- The pay-out time is currently excessively long in our experience. Efforts should be made to streamline the administrative process.

- The limit of one project per company is unfair to larger companies with many projects. Perhaps one eligible project per $1/4 million exploration expenditures would be more equitable.

- The increasing amount of administration required of the OMEP recipient makes the program less and less beneficial for the smallest operators, i.e. those who would be relatively more benefitted by the program and to whom the program was initially most oriented.

- This rigid requirement has crippled our project for the third consecutive year: investors are encouraged by the prospect of a share in the OMEP payback, but require proof of this before deciding to risk money. OMEP requires proof that the money is there before approving.

- There is a problem with OMEP grants for small exploration companies. Only allowed one application per property per year and funding must be in place before application. If the mineral discovery is made, additional funding is required quickly and OMEP grants may not be eligible.

- Perhaps allow work to continue for 1 or 2 months after "year end" to help companies with awkward year-ends or winter work programs. Proof should include such things as private placements or joint venture deals under negotiation or public financings at least where preliminary prospectus has been filed.

- If OMEP is retained, the benefit should be payable to the applicant and not flowed through to the purchaser of shares. This would be simpler and would still give the investor more "Bang for his buck" by allowing more work to be accomplished rather than just a tax saving. It would be a more productive financing method.

- Our company hires and supervises its own field crews in geology and geochemical surveying. Help us to find a way to reduce the number of receipts (less than $10.00) that must be photocopied and submitted to OMEP for proof of expenditures.

- Over the last year the bureaucracy at OMEP seems to have increased.

- The applicants should be screened and those with no anticipated taxes to be paid should be reimbursed with a straight grant within 60 days, i.e. the reimbursement should not be tied to filing of corporate income tax if the applicant makes a declaration that it will not be taxable at the time if applying for OMEP designation.

- The Ontario government to this point has endeavoured to support exploration realizing the wealth created for the province, however, they must increase their support to maintain a leadership position and keep exploration in the province and stimulate development of promising prospects.

- The OMEP program in lean times has made the difference between holding ground and letting claims expire without any development.

- OMEP: I had to make my mind up in a hurry to save nearly $3,000 and had a survey done. I put in for OMEP and they refused the grant on account of not having had the permission first from the office.

- OMEP just kept coming up with excuses not to give the money to us.

In addition to the questionnaire about a dozen companies and individuals were interviewed concerning OMEP and possible improvements. The more pertinent comments are listed below:

(a) generally good, but lately very bureaucratic and very slow.

(b) OMEP only provides nickels and dimes on a junior clerk's discretion. In Quebec, the deputy minister visits you to determine what help they can provide.

(c) OMEP shouldn't require the extreme proof of funding (knowledge of individuals bank accounts, etc.) they currently insist on.

(d) need a faster payout and acceptance of reports prepared for assessment purposes and more practical forms.

(e) on flow-through financing, clarify who receives OMEP, the company or the shareholders. There was a lot of concern on this issue and many companies pointed out the time and expense involved in trying to forward on small refunds two years later. Most people surveyed thought that the grant should be optional by the company and pointed out the great need for administrative and property acquisition funds.

OMEP Questionnaire

In order of priority (1 being highest) please try to rate what actions the Ontario government might take to improve the position of junior mining in Ontario.

___ increase the write-offs for flow through shares to 166%

___ reduce corporate and mining taxes below the level for manufacturing, financial services etc.

___ increase OMEP - see separate questionnaire as well

___ improve the data base

___ provide grants for development, like Quebec

___ permit flow through depletion allowance for development work (C.D.E.) similar to exploration (C.E.E.)

___ eliminate capital gains taxes

___ improve support and technology (like Quebec) in order to provide better services in the mining recorders and regional geologists office

___ provide a liaison person to guide companies through the regulatory process

___ in general improve the tax and regulatory environment for junior mines financing

Recent changes in the administration of OMEP and the use of flow through shares have caused problems with OMEP for some companies. If you have used OMEP within the last year please rate your experience with it:

___ Excellent	___ Good	___ Fair
___ Needs Improvement	___ OMEP Not Used	___ OMEP Application Rejected

Please check the box if any or all of the following changes would materially effect your exploration plans in Ontario.

___ A change from a tax credit to a grant and faster pay-out.

___ A payment of 50% as soon as the company gives notice of expenditure.

___ No proof of ability to fund program before applying

___ Increased funding with limit increased to 3 programs.

___ Other

Would the elimination of OMEP effect your exploration plans?

___ Yes ___ No

Additional Comments:

SECTION X

ONTARIO GEOLOGICAL SURVEY AND GEOSCIENCE DATA BASE

Introduction

As part of the Committee investigation of ways and means of improving Junior Resource Company financings in Ontario and reviewing the competitive position of mining in Ontario, the chairman carried out a short study of the Ontario Geological Survey and the geological data base in Ontario. Input was requested from companies and individuals involved in mineral exploration in Ontario and discussions were held with O.G.S. people and budgets were reviewed. Recent studies of the O.G.S. were helpful. The Canadian Geoscience Council report entitled "Evaluation of the Ontario Geological Survey" dated February 1985 and two detailed questionnaires compiled and published in 1982 and 1983, provided valid input into our study. While we included their recommendations and a portion of the questionnaire results in the report, (Table 1 and Chart 1 - B.1), the complete report may be reviewed by those readers interested in the role of the O.G.S.

In addition, a new committee advises the O.G.S. of industry's needs and directions. Because of these committees' activities and also due to our involvement in other prime areas, we only performed a cursory review of the O.G.S. and the Data Base.

The new Mining Act is of prime concern to industry and should be implemented as soon as possible. Again, committees of the P.D.A. and the Ontario Mining Association as well as various companies are reviewing and advising.

Recommendations for the O.G.S.

1. Budgets

    While recognizing the needs for government restraint in spending, we are concerned about the decrease in current dollar operating funds from $2.7 million in 1977-78 to $1.6 million for 1985-86. Much additional geological work remains to be done and geologists should be in the field mapping and re-mapping. At the minimum, these funds should keep pace with inflation. We cannot over-emphasize the importance of a good geoscience data base to assist exploration.

2. Roles of the O.G.S. and District Geologists

    In recent years the roles of these two groups have not been well defined and various conflicts have arisen. We understand that this problem is currently under review and hopefully, workable plans to coordinate the activities of these two groups will be forthcoming. The district geologist can perform an important role in compiling data, examining properties and staying current on the activities in his area.

    The Committee recommends the expansion of the current Resident Geologist program in order to complete a data compilation on a 1:20,000 scale of all available geoscience data plus interpretations. In conjunction with industry a priority list of areas should be drawn up and budgeted for completion in about three years.

3. <u>Privatization of O.G.S. Services</u>

This privatization should be limited to those functions best carried out by commercial enterprises or academic institutions. Those services include drilling, airborne geophysical surveying, printing and publication of maps, and reports and research of the type that is currently being sponsored in Ontario universities as part of the Ontario Geoscience Research Fund grant program.

4. <u>Geoscience Data Base</u>

Most of the exploration community is in favour of the O.G.S. expanding the geoscience data base. While geologic mapping and re-mapping of greenstone belts is a top priority, regional geophysical and geochemical surveys are also very important. The Quebec government Input surveys have been responsible for several new discoveries over the last decade.

The Committee would like to see the O.G.S. (in consultation with industry) prepare a priority list of areas to be (re-)mapped at 1:20,000 and 1:100,000. After the lists have been prepared and agreed upon, the O.G.S. should be staffed and funded in such a way that this program can be accomplished within ten years.

5. <u>The O.G.S Technical Liaison Committee</u>

The current review committee should be encouraged to take an active role in evaluating and advising on O.G.S. activities. The chairman of the committee should come from industry. Also the 1985 report prepared by the Canadian Geoscience Council should be utilized. The budgets of the various sections should be reviewed by this proposed committee.

6. <u>Location of Services</u>

Approximately 70% of the clients of the O.G.S. are in Toronto so that geographic diversification of the O.G.S. away from Toronto is undesirable.

<u>Recommendations On Other Technical Matters</u>

1. Implement the new Mining Act. After 17 years of study it is time to get the new Act in place.

2. Complete the metrification process which should include:

   (a) metric claim sizes - 400 meters x 400 meters.

   (b) claim maps 1:50,000 scale - on computer so they can be updated.

   (c) old geologic maps photoreduced or expanded to a metric base.

3. Use modern technology for information storage, retrieval and transmission. This should include:

   (a) claim information computerized as in Quebec.
   (b) Fax transmission system in regional offices.
   (c) geological, geochemical and geophysical files should be computerized.

4. Get assessment work on a dollar basis as in the new Mining Act. At present there is a 15 times difference in favour of Quebec in the amount of yearly assessment work required. Assessment files at the Grenville St. office need improvement and we are told that the micro fiche files are very difficult to use.

5. Since the Quebec government has been the leader in both fiscal incentives and technical support for the mining industry, we recommend that Ontario review and copy their programs. The Quebec government spends from $8 to $10 million per year to improve the geoscientific data base and approximately $2.5 million per year to process claim records, assessment files etc. onto a computer base. These programs provide excellent support to the exploration industry.

TABLE 1

Client View of "Essential" OGS Services

vs

OGS Expenditures on these Services

OGS Service Regarded as "essential" by	All respondents*	MME**	OGS Core Expenditures** 1982-1983
Geological Mapping	78%	88%	$1,482,000
Assessment Files	53	81	287,000 (1)
Resident Geologists Services	49	62	(3,317,000 (2))
Geophysical Mapping	41	31	805,000
Library Services	33	33	208,000
Exploration Technology R & D	22	23	(1,000,000 (3))
Core Storage Libraries	19	19	(1,600,000 (3))
Mineral Deposits Inventory Studies	18.5	20	540,000
Geochronology	18.5	13	56,000
Geochemical Mapping	17	21	114,000
Indexing Services	16	21	(4)
Open House/Seminars	14	17	6,000
Metallogenic Research	13	11	46,000
Aggregate Resources Inventory	11	8	148,000
Analytical Technology R & D	6	5	741,000 (5)

* Metallic Minerals Explorationists

** excluding add-on funds from BILD, DREE, MNA except where noted.

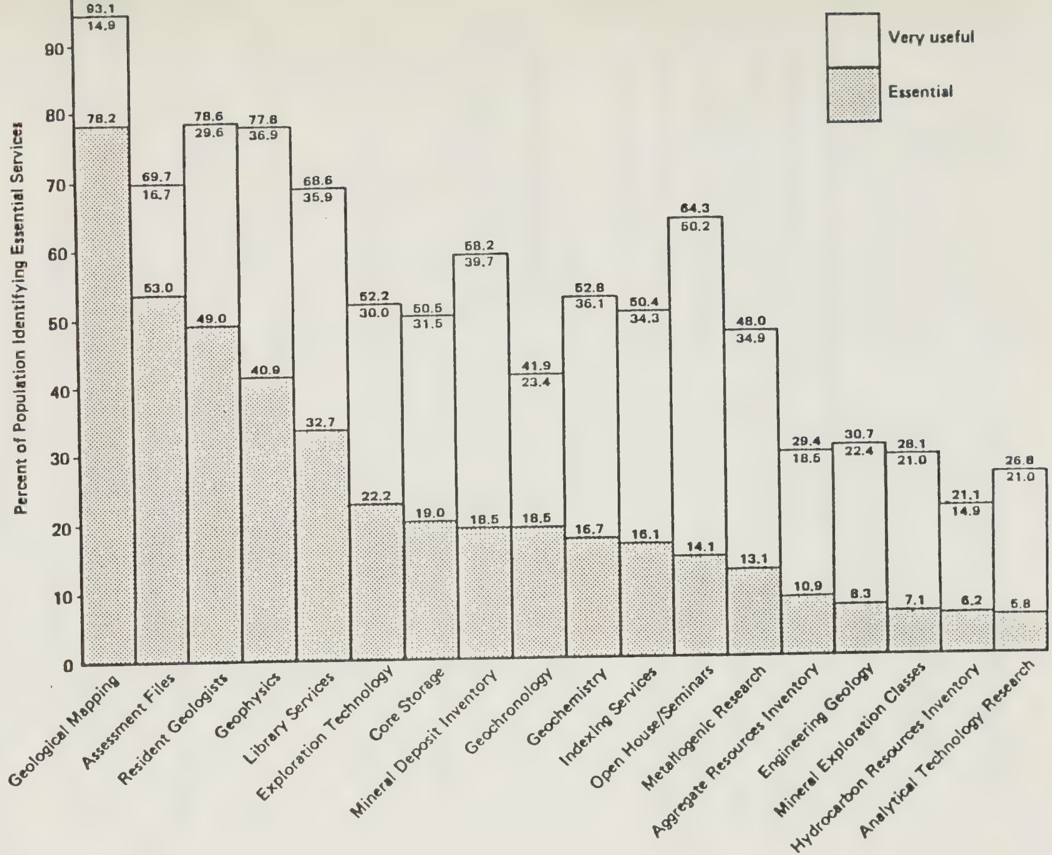
(1) includes expenditures on "indexing services" which may be regarded as integral to maintaining assessment records.

(2) the responsibility for managing and administering this program lies with the Regions, and not with the OGS. Sources of revenue include MNA and DREE.

(3) money for this program is provided by BILD.

(4) included in cost of maintaining assessment records.

(5) includes analytical support services for OGS and resident geologists.



1(B.1) Ranking of all O.G.S. services by all (504) respondents.

Ontario Geoscience Data Base

Introduction

Dr. Alan Coope in his address to the 42nd Provincial Mines Ministers Conference in Charlottetown in September 1985 stated "Geological R & D and exploration technological development are the long-term underpinnings of the Canadian mining industry's competitive existence. Support of this activity is essential to the country's economic growth, the creation of new job opportunities and the maintenance of Canada's outstanding reputation as a mining nation. They must not be ignored or de-emphasized as the industry skillfully tackles the short term issues of the day."

The following discussion on the Ontario Geoscience Data Base as it relates to the mineral exploration industry was drafted by Dr. Vic Milne, Director of the O.G.S. The recommendations after the various options are those of the Committee.

The general parameters of an Ontario Geoscience Data Base should be as follows:

(a) the information should be current scientifically and historically and easily accessible,

(b) a comprehensive overview of all information, by area of interest should be available and,

(c) when required, guidance from staff familiar with the information should be available.

Background

Organization of the geoscience functions of the Mines and Minerals Division has evolved over the years to meet these requirements. The complementary elements of the Ontario Geological Survey--largely responsible for generating a scientifically current map and information base for the Province, and the Resident Geologist program--principally responsible for comprehensive knowledge, summary and promotion of area mineral potential, can effectively respond to these needs if properly coordinated and supported with adequate resources. Realignment and consolidation of the Mines units within the new Mines and Minerals Division should improve program coordination and efficiency.

To effectively provide geoscience data in support of exploration in Ontario, the Mines program must be able to combine ongoing in-house expertise in geoscience specialization (O.G.S.) and area specialization (Residents Program) with short term responsiveness to issues and exploration rushes. Within the last decade the geoscience program support has shifted from predominantly ongoing base support to predominantly short term reactive support, in that almost two thirds of the geoscience program budget is in the form of add-on program funding (see Budget Tables).

As identified in the Canadian Geoscience Council audit (1984), progressive reduction of basic support for the program in the previous Ministry by about 50 per cent in real dollar terms, distorts the priorities and undermines the long term skills investment in the O.G.S. and Resident programs. This trend should be reversed and an appropriate balance of support provided between geoscience data base generation and promotion, and issue responsiveness.

In contrast to Quebec the promotional role of the Resident Geologists in the regions appears to have been muffled to some degree in the

past by its parallel conservation role. It is hoped that the development thrust of the new Ministry will translate into more proactive promotional activity in the form of comprehensive area data compilations and show-casing of area highlights and potentials. It is recognized that this is a difficult role to carry in some respects without encroaching on private sector consultant activities and in maintaining government impartiality and credibility.

Geoscience Data Base Program

Overview

Polls indicate that the prime interest of the exploration industry in the geoscience data base is in scientifically current maps and reports, up-to-date information on mineral deposits, their geological relationships and exploration history, and comprehensive summaries of data by areas of interest. This requires that the geoscience data base be continually reviewed and updated. The Canadian Geoscience Council report indicates that the current rate of review is inadequate and recommends re-mapping for example, at least every 20 years.

To tackle the entire Province in this way without very major expansion of staff and funding is impractical but a program based upon commensurate base support in staff and budget, and a strategically planned program based upon priorities and potentials can maintain Ontario's resource potential competitiveness with other provinces and countries. Hot spots and issues can be addressed in this process by short term 'add-on' initiatives.

As noted above, up-to-date information is essential but ease of access to that information for the exploration industry is also critical. As the volume of information increases, informed summary and compilation of area information by Resident Geologists becomes increasingly important

and one to one transfer of detailed data becomes inefficient and impractical; computerized management of data is becoming increasingly essential.

Systems development in management of geoscience and exploration information should be aggressively promoted and supported. Because users will not all be 'computerized' to the same level, a government system of information access will have to be a mixed system in order to provide the flexibility of service required by clients ranging from major companies to individual prospectors.

Junior companies and prospectors are also interested in the maintenance of a healthy level of research and development in exploration techniques in the private sector and universities. Geophysical, geochemical and geoscience concept and model research, and deposit testing through analytical and bench testing support are of significant value in encouraging exploration efforts. Programs such as the Ontario Research Grants in support of applied university research, and the Exploration Technology Development Program which jointly funds research in the private sector, etc., have been successful in focussing research on specific Ontario problems. Support in these areas should be maintained.

The educational component of the mining program has largely disappeared in the Resident and Survey programs in the last decade due to shrinking support. The industry is concerned that government and the private sector put significant effort into informing the general public of the value of mineral commodities in their lives and of the economic benefits derived by the Province from the exploration and mining industries.

Other Strategic Considerations and Recommendations

Basic mapping coverage, geoscience acquisition and efficient transfer of information to users are the basic ingredients of the geoscience program and should have strong on-going support, but other strategic considerations include:

1. Limit mapping update to accessible areas and existing mining camps, or extend also into more remote high potential areas needing higher flying cost support e.g. volcanic belts:

   North of Red Lake - Pickle Lake
   Partridge River - Detour Lake
   James Bay Lowlands etc.

   Recommendation: A mixture of both categories is recommended. The Committee would like to see the O.G.S. (in consultation with industry) prepare a priority list of areas to be (re-)mapped at 1:20,000 and 1:100,000. After the lists have been prepared and agreed upon, the O.G.S. should be staffed and funded in such a way that this program can be accomplished within ten years.

2. Focus mapping and mineral deposit studies on the basis of commodities, e.g.

   - maintain a major effort on gold areas and/or increase efforts on platinum group environments;

   - tackle the large, relatively unmapped granitic areas which may host lithophile elements such as Be, Cs, Sr, W, R.E.E.'s etc.;

   - expand efforts in the search for ceramic base commodities in anticipation of future 'cermet' technology.

Recommendation: Keep work general because it is difficult to predict commodities.

3. Introduce Airborne Electromagnetic surveys and regional geochemical surveys as an on-going component of the base program.

   Recommendation: Recommended.

4. Provide a more comprehensive system of area information compilations/folios in the Resident Geologist program.

   Recommendation: The Committee recommends the expansion of the current Resident Geologist program in order to complete a data compilation on a 1:20,000 scale of all available geoscience data plus interpretations. In conjunction with industry a priority list of areas should be drawn up and budgeted for completion in about three years.

5. Expand programs related to exploration methods studies e.g.:

   - case histories;
   - regional structural analysis;
   - Quaternary mapping in support of exploration in overburden areas;
   - geophysical overburden sounding technology;
   - incorporation of remote sensing techniques into mapping and mineral potential evaluation studies.

Recommendation: All these categories are important to the exploration community. However the O.G.S. should only compliment and not duplicate the activities carried out by industry. The geophysics-geochemistry division should not be in the instrument testing business.

6. Increase exploration/mineral development technology support:

- continue support of the Exploration Technology Development Program (ETDP);

- expand government services in analytical, mineralogical and metallurgical support to industry;

- expand geophysical and geochemical test-range facilities.

Recommendation: The Exploration Technology Development Program support should be continued. The other two items are probably adequately covered by industry.

7. Reintroduce regional prospector's classes and make mining and geo-science resource material available to schools.

Recommendation: Worthwhile if budget permits.

Budgets

The O.G.S. Base Program funding in 1977-78 totalled $5.2 million and in 1985-86 is $5.7 million in current dollars. In these eight years, despite staffing reductions, progressively increased salary costs and decreased operating funds have resulted in a shrinkage in current dollars from $2.7 million to $1.6 million, which in real dollar value represents a reduction of more than 50 per cent. (Fig. 1 & 2)

In those same eight years, supplementary add-on programs have been funded from extra Ministry sources which have in dollars tripled the program support. Large blocks of these funds, however, were for capital projects (e.g. Drill Core Storage Facilities) and grant programs (e.g. Exploration Technology Development Fund).

The add-on geoscience programs, principally community focussed programs, depend significantly upon the expertise developed under the base scientific and support services program for the responsiveness, effectiveness and efficiency of operation.

To show the net costs of the O.G.S., some form of credit should be given against the budget for the sale of maps, reports and other items.

Current Status

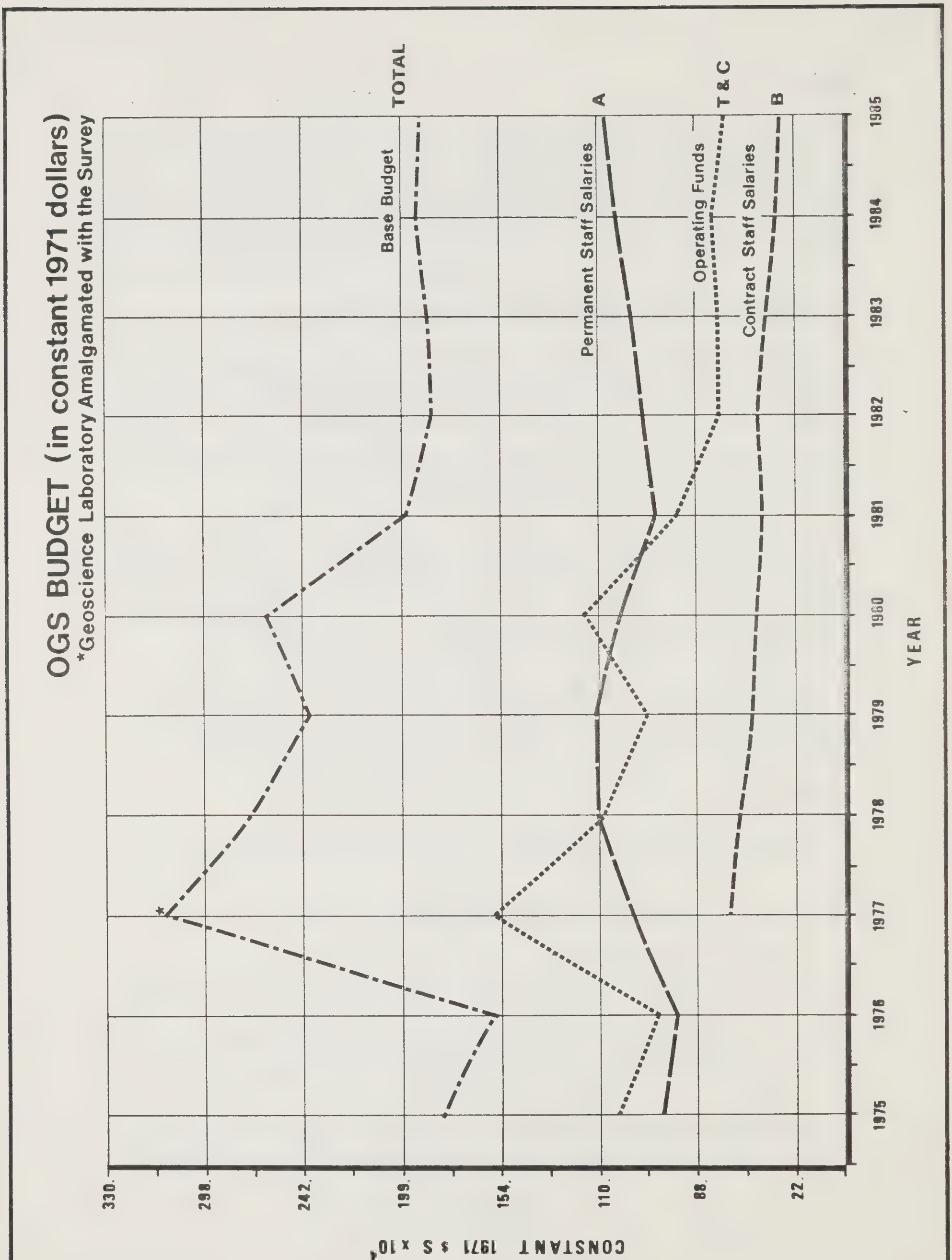
Shrinking operating funds have:

(a) Reduced the number of geoscience data base projects.

(b) Seriously reduced the ability to move operations to new initiatives.

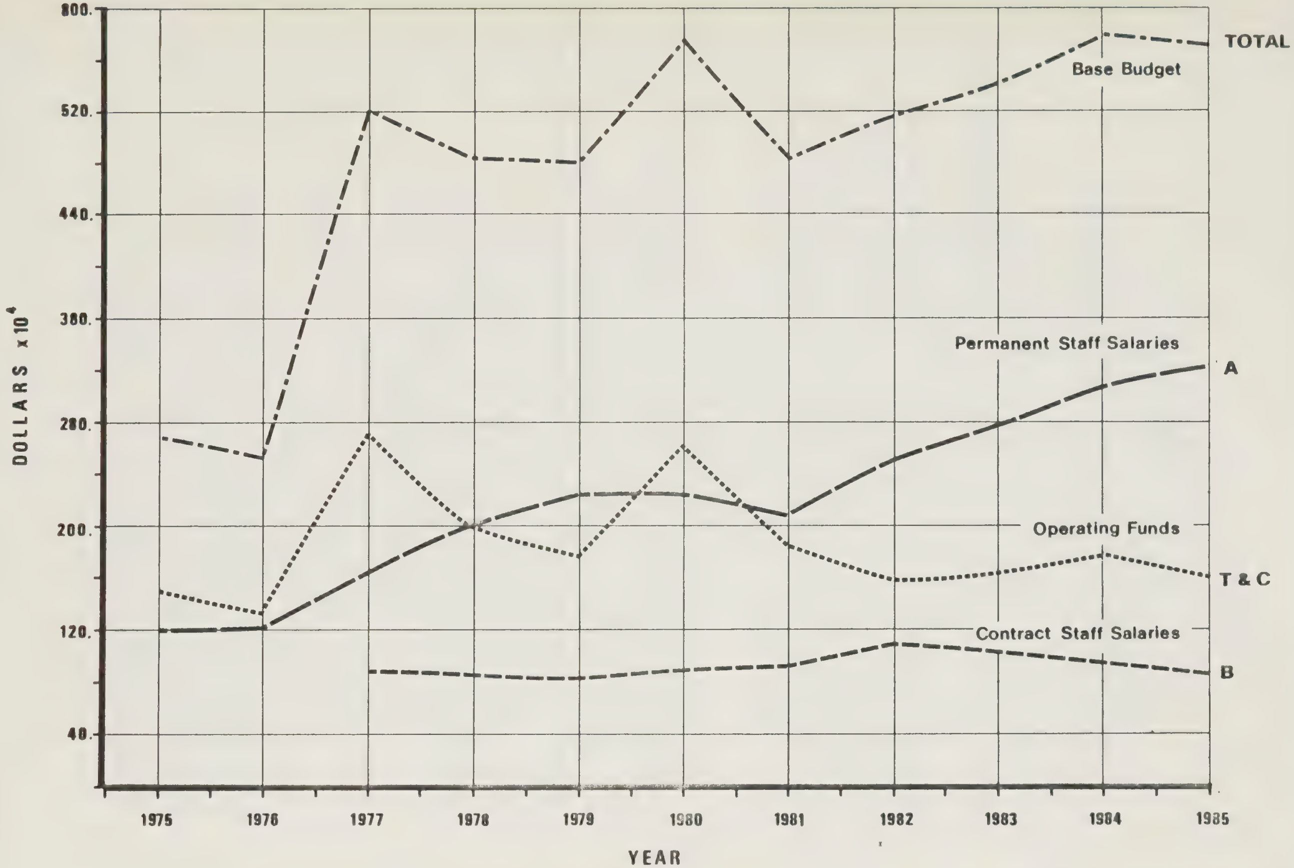
(c) Reduced the capacity to undertake scientific development projects which generate future quality and relevance of program.

(d) Constrained operating costs significantly by fixed costs/maintenance costs, keeping geologists in the office rather than in the field.



OGS BUDGET (in constant 1971 dollars)
*Geoscience Laboratory Amalgamated with the Survey
TOTAL
Base Budget
A
Permanent Staff Salaries
T & C
Operating Funds
B
Contract Staff Salaries
*
CONSTANT 1971 $ S x10⁴
330.
298.
242.
199.
154.
110.
88.
22.
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
YEAR

OGS BUDGET (in actual dollars)



APPENDIX

THE SUMMARY AND RECOMMENDATIONS OF VOLUME ONE

Mandate of the Committee

The Government of Ontario established this Committee because it recognizes that the junior resource industry has been a major factor in the development of Ontario's mineral wealth and should play an even greater role than in the past. The Committee's task has been to balance the need for easy access to resource capital with the need for investor protection.

The policies of the Ontario Securities Commission, the Toronto Stock Exchange, the Vancouver Stock Exchange and the Superintendent of Brokers of British Columbia, and all regulatory schemes provided the basis of comparative information and new ideas. It became apparent that there were many areas in need of policy guidelines where none previously existed. The Committee concluded its goal should be to formulate a policy tailored specifically for Ontario's needs. This policy would operate within the closed system under the Ontario Securities Act, and and it would remain consistent with the concepts established in the founders' stock policy of the Toronto Stock Exchange.

New Policy Proposals

The new draft policy contains provisions covering most matters in which junior resource companies are involved in order that persons wishing to do business in Ontario will know in advance precisely the rules under which they are to be guided. It is believed that the majority of junior resource issuers can be organized effectively and can

operate under the policy guidelines with infrequent need to seek special applications for the Director's discretion.

The new policy encourages arm's-length transactions by requiring non arm's-length property agreements to be carried out at cost. This removal of conflicts of interest protects both the public and the issuer.

The policy also offers prospectors, founders, vendors, promoters and dealers incentives to operate in Ontario which were not previously available, and encourages new and more efficient methods of raising capital. While accomplishing this, it does not disrupt the existing mechanisms for financing junior resource issuers in Ontario; it only adds more stringent guidelines.

Summary of Proposed Securities Policy For Resource Issuers

The proposed securities policy found in Volume One, Section VI of the Committee's report is divided into 20 parts which represent the major issues in financing junior resource companies. The following is a summary of these parts.

Part I - Statement of Principle

Part I sets out the mandate of the Committee. The new policy applies to all resource issuers which are reporting issuers in Ontario, unless the issuer's securities are listed and posted for trading on the Toronto Stock Exchange. Non-reporting issuers should also be guided by the policy statement if status as a reporting issuer in Ontario is expected to be sought at a future time.

Part II - The Founder Stock Model

The basic founder stock model is derived from concepts contained in the Founder Stock Policy of The Exchange. The shares which founders hold are divided into value shares and base shares. Base shares represent dilution since they are issued free of cost, while the value shares are priced at the amount received by the treasury of the issuer in the initial prospectus distribution. The maximum dilution permitted is 50%, except that it may increase to 60% where the number of base shares does not exceed 750,000.

Part III - Escrow Requirements

The base shares of founders who are promoters of the issuer, officers and directors of the issuer owning more than 5% of any class of share of the issuer prior to the initial prospectus distribution, and other persons or companies owning more than 10% of the shares of any class of the issuer prior to the initial prospectus distribution are subject to escrow.

Releases from escrow are in part automatic and in part earned. Automatic releases are based on an escrow release table. If the dilution caused by base shares is less than 40%, it is possible to obtain a 100% release from escrow of base shares by the passage of time.

There is no minimum founder contribution level required. In all cases, 10% of the first 750,000 base shares will be released on the acceptance date of the first prospectus distribution. For the first 750,000 base shares, earned releases occur on the basis of expenditures made on the issuer's properties. However, the combination of earned and automatic releases may not result in a complete release from escrow of all base shares earlier than the third anniversary of the acceptance date for the initial prospectus distribution.

To the extent that founders obtain more than 750,000 base shares, the release from escrow of excess shares are subject to a cumulative cash flow per share test in part when a production decision has been made, with the balance on attainment of commercial production.

Founders' shares not released from escrow within 10 years of the acceptance date for the initial prospectus distribution must be donated to the issuer for cancellation. Founders may apply to the Director for an extension of up to five additional years.

Part IV - Further Conditions on Base Shares or Exempt Issuers

The policy contains a mechanism whereby the Director may impose an escrow on certain base shares which might not otherwise be escrowed as a condition for the acceptance of a prospectus of the issuer.

Part V - Transfers Within Escrow

Base shares in escrow may not be transferred without the consent of the Commission. Guidelines for obtaining such consent are set out in this part.

Part VI - Vendor Consideration for Resource Properties

Vendors who have transferred resource properties to issuers prior to the initial prospectus distribution will be treated as founders and governed by the rules contained in Parts II and III. A distinction is made between an acquisition which is carried out on an arm's-length basis and a non arm's-length basis, and between resource properties which have a determinate and indeterminate value.

For non arm's-length acquisitions of properties of indeterminate value, vendors may only receive their actual out-of-pocket costs,

however, they may elect to receive these costs in shares issued at a discount from the market price, or at the net price to the treasury of the issuer where the property acquisition is made in conjunction with a further financing.

In arm's-length transactions, the number of allowable vendor shares for properties of indeterminate value is dependent upon the price level at which the shares are traded. There are rules which establish the basis upon which vendor shares are to be issued. Where half of the maximum vendor shares which are permitted under the policy are provided for in the vendor agreement, the issuance of vendor shares is dependent only on the passage of time. Where a greater vendor consideration is provided for, the issuance of vendor shares is tied to property expenditures.

For properties of determinate value an application to the Director is necessary to determine such value. The number of shares if any to be placed in escrow must be agreed upon, as well as the terms of the escrow release which will then be included in and form part of the escrow agreement. The Director may require that non arm's-length transactions be placed before disinterested shareholders for approval.

Vendors in both arm's-length and non arm's-length transactions may receive interests in properties. If the interest received is solely a net smelter return, then 3% is the maximum total burden permitted and if it is solely a net profit interest, 15% is the maximum total burden.

In an arm's-length transaction, the maximum permitted vendor consideration may be issued for less than a 100% interest in a property, however, the Director may in such circumstances exercise his discretion and require a reduced vendor consideration to be issued.

Part VII - Dormant Issuers

To encourage the reactivation of dormant issuers this policy sets out the tests under which additional base shares may be issued.

The maximum number of additional base shares may not exceed 750,000 shares where there is no consolidation. There is a maximum for both automatic releases and earned releases which is based on an expenditures test. The number of base shares is also limited so that the total shareholdings of the principals after the consolidation and the reorganization, must not exceed 50% of the total issued shares of the issuer.

Part VIII - Dealer Compensation

Three types of offerings are described: an underwritten offering, a best efforts offering and a guaranteed offering with the minimum underwriting being increased to $100,000. The maximum dealer commission or mark-up permitted is set at 100% for distributions which provide the issuer with net proceeds of 65¢ decreasing to 30% where the net proceeds to the issuer is $2.05.

As further incentive, dealers may receive a bonus of 15 shares for every 100 shares purchased from the treasury on an underwritten basis, or 10 shares for every 100 shares in the case of a best efforts financing.

A green shoe option, a dealer compensation option, and a promoter option are permitted which are essentially the same as those permitted in financings under Exchange policies. The terms of the dealer and promoter compensation option are extended from 2 to 3 years.

If the dealer decides not to proceed with a proposed offering, the dealer is required to send a letter to the Commission and the issuer providing the details of the circumstances which led to the decision on the part of the dealer not to proceed. Such letter will be placed in the issuer's public file.

Part IX - Mergers and Consolidations

The principles which apply to calculate earned releases based upon property expenditures for both mergers and consolidations are set out.

Part X - Private Placements

Private placements may be made either pursuant to private agreements, or pursuant to subscription agreements forming part of an offering memorandum. They may be made at a discount from the base price, which is the weighted average price of the issuer's shares for the five trading days preceding the agreement day.

Every private placement agreement must contain a representation and warranty that the securities are not being purchased as a result of any material fact or information about the issuer that has not been publicly disclosed. Placements by private agreement must close within 45 days, and if made pursuant to an offering memorandum within 75 days of the agreement day. There are provisions setting out the circumstances under which the shareholders of the issuer are required to approve a private placement.

Warrants to purchase securities of an issuer may be issued as part of a private placement provided that the warrants are not issued at a discount, they do not extend beyond five years and they do not entitle the holder to purchase a greater number of securities than the number originally sold. The longer the term of the warrant the higher must be its exercise price.

Provisions have been designed to prevent the termination of private placement agreements so as to obtain more favourable pricing.

Part XI - Bonuses for Loans and Guarantees - Finder's Fees

The issuance of shares or non-transferrable share purchase warrants in consideration of loans or loan guarantees, made by both arm's-length and non arm's-length lenders is permissable, provided:

a) the loan and/or guarantee must be necessary and would not have been granted without a bonus to the lender or the guarantor as the case may be;

b) lenders or guarantors may receive a bonus of shares having an average current market value not exceeding 5% of the amount of the funds loaned or guaranteed; and

c) the amount of bonus that may be paid if warrants are issued may not entitle the holder to purchase more than double the number of shares permitted in (b) above.

In circumstances where the ability of the issuer to repay a loan is not evident, or when the guarantee represents the sole collateral for a loan, the bonus, if paid in shares, may be increased to 20% or, if paid in warrants, may be similarly increased. The approval of shareholders must be obtained for any bonus given to a non arm's-length lender or guarantor that exceeds 50% of the maximum bonus permitted to be paid by an issuer.

Finder's fees and commissions may be paid to persons or companies if the issuer receives a measurable benefit through the efforts of such persons or companies. Payment of finder's fees or commissions to the insiders of an issuer is prohibited.

Part XII - Shares for Debt

The issuance of shares for the settlement of trade or other accounts which are otherwise normally paid in cash is permitted. The price per share at which debt can be converted into equity may not be less than the average price for the issuer's shares over the 30 day period preceding the settlement but in any event, at least 15¢ per share.

Shareholders' approval to debt conversion into equity will be required where more than 50% of the debt proposed to be converted is owed to creditors who are not dealing at arm's-length, or where the issuance of shares for debt in any 12 month period would exceed 5% of the issued capital of the issuer at the beginning of the period.

Part XIII - Reporting Issuers which Purchase other Securities

This part applies to purchases of securities which are made by reporting issuers in the normal market place where shares of the target issuer are traded.

This part does not apply to private agreements, purchases which are not solely for cash, or takeover bids made in compliance with the Act and the regulations. The use of surplus funds for activities related to the purchase of securities of other issuers is strictly limited.

If an issuer has been a reporting issuer for more than one year, it may apply surplus funds of up to $150,000 for the purchase of securities of other issuers, provided the two issuers do not have a common insider. If there is a common insider, additional restrictions apply, namely: the purchase must be for investment purposes only, and the resale of such securities may not occur within 12 months without the prior approval of the Director.

Part XIV - Share Consolidations

In the past, some share consolidations have been so severe as to essentially deprive the existing shareholders from any future voice in the issuer's affairs.

Prior approval of the Director will be required for any share consolidation which reduces the number of issued shares of a reporting issuer to less than 750,000, or for any share consolidation if the effect of such consolidation either along with or in combination with any prior consolidation within the preceding 12 months, would have the combined effect of consolidating the issued capital of a reporting issuer on a basis greater than one for ten.

Part XV - Acquisitions of Assets from Insiders

Where an issuer proposes to acquire an interest in a non-resource property or other asset directly or indirectly from an insider, the following provisions apply:

a) if the insider's interest has been beneficially owned for a period exceeding one year, the acquisition may be made at its fair market value even if that exceeds the insider's cost;

b) if the insider's interest has not been beneficially owned for the period exceeding one year, then the consideration that may be paid by the issuer is limited to the insider's out-of-pocket expense relating to the acquisition of the interest.

Shareholders must approve an acquisition under either (a) or (b) above. Under restricted circumstances, application may be made to the Director to permit the payment of a greater consideration.

Part XVI - Management Remuneration

The maximum monthly cash fee that may be paid in the aggregate to the management of issuers which have no cash flow or immediate source of funds, other than by public subscription, is limited to $3,000.

Issuers may remunerate directors and officers by granting stock options or creating stock option plans. The basic features are:

a) the options are non-transferrable;

b) the options are exercisable within a period of five years;

c) the aggregate number of securities reserved for issue shall not in the aggregate exceed 10% of the issuer's securities outstanding from time to time;

d) the exercise price is limited to a specified discount from the market price;

e) options to any one individual may not exceed 50% of the maximum number of options permitted; and

f) the grant thereof must be made in compliance with a previous blanket ruling of the Commission dealing with trades by issuers in options to senior officers and directors.

Part XVII - Financial Assistance from Officers and Directors

The directors and officers of an issuer and their associates may purchase securities of an issuer without shareholder approval, and without the necessity to make an application to the Commission for a ruling under Section 73 provided:

a) the aggregate acquisition cost of securities purchased pursuant to this Part during any 12 month period by all of the persons mentioned above does not exceed $50,000;

b) the price is not less than the base price less the discount allowed in the case of a private placement.

Part XVIII - Adjacent Resource Properties and Retained Interests

This part deals with non arm's-length transactions between issuers and vendors of resource properties where the vendor wishes to retain an interest in the property in excess of permitted royalties or net profit interests, or where the vendor retains an interest in adjacent or contiguous properties. It does not apply to non arm's-length agreements between reporting issuers.

A non arm's-length vendor may retain an interest in a resource property in excess of permitted royalties or net profit interests provided it is a full participating interest.

A non arm's-length vendor may retain an interest in an adjacent or contiguous resource property if: the vendor retains no interest in the property transferred to the issuer in excess of permitted royalties or net profit interests; the property transferred comprises not less than approximately four square miles (64 claims in Ontario); the issuer was offered and declined the opportunity to acquire the contiguous or

adjacent property; and the vendor did not take part in the decision of the issuer not to acquire the adjacent or contiguous property.

Properties or interests -- acquired by a vendor within six months after completing a non arm's-length agreement with an issuer -- which are owned at the time the agreement with the issuer was made and are regarded as adjacent properties, must be offered to the issuer.

Part XIX - Miscellaneous

This Part is intended to deal with all miscellaneous matters which can be expressed in brief statements of policy. There are 14 such matters.

Part XX - Powers of the Commission

This Part restates the existence of the Director's over-all discretion and that the new policy will be reviewed from time-to-time to monitor the effectiveness of its operation.

Recommendations

The recommendations of the Committee are that:

a) the Securities Policy for Resource Issuers prepared by the Committee be adopted by the Commission in its present form;

b) the Technical Review Committee referred to in section 1.6 of Part XIX of the proposed Securities Policy be established forthwith;

c) the Standing Liaison Committee referred to in section 1.3 of Part XX of the proposed Securities Policy be established forthwith;

d) the Securities Policy be administered and interpreted so as to encourage promoters and vendors to do business in Ontario;

e) if the Securities Policy for Resource Issuers recommended by the Committee is to be truly effective it is essential that an efficient and inexpensive market place exists in Ontario where the securities of resource issuers can be traded. To effect such purpose, an industry/ government task force should be immediately established to up-grade the Canadian Over-The-Counter Automated Trading System (COATS) to a true trading system rather than its present status as a simple quotation and reporting system.

f) the exemption by the Toronto Stock Exchange of issuers applying to list on the Exchange from certain parts of the Exchange's Founder Stock Policy Statement, on the basis of time elapsed from the initial prospectus distribution, require only a 12 month waiting period where the issuer has complied with the Founder Stock Model of the Securities Policy.